THE physical therapy REVIEW

Safe Practices in the Physical Therapy Department — ROSE

Neurotrophic Ulcers of the Foot — CURRIER

Pains Associated with Soft Tissue Syndromes

One Method of Treating Subdeltoid Bursitis — BROWN

Fibrositis of the Left Shoulder — HINES

Medical Galvanism in the Treatment of Acute Myositis — SMITH

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Volume 39, Number 10 **October 1959**

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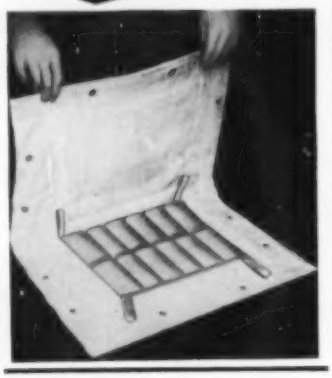

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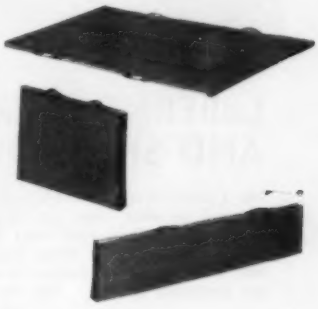

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October 1959
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The *Physical Therapy Review* is published monthly by the American Physical Therapy Association, 1790 Broadway, New York 19, N.Y. Reentered as second class matter August 11, 1949 at the post office at New York, N. Y., under the act of Congress of Aug. 24, 1912.

Subscription rates: $7.00 per year to nonmembers: $8.00 in Canada and foreign countries.

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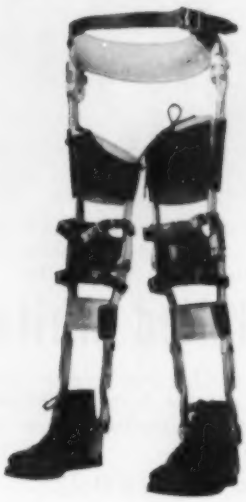

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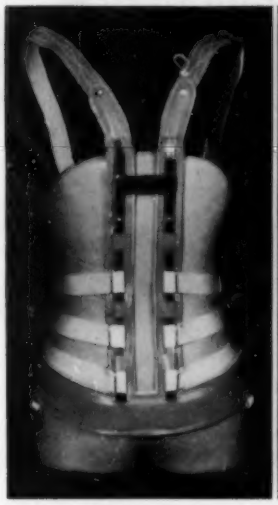

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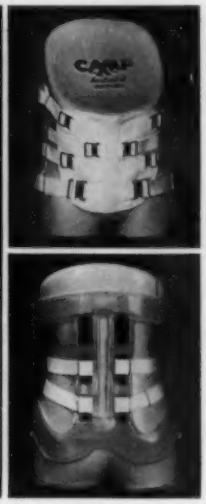

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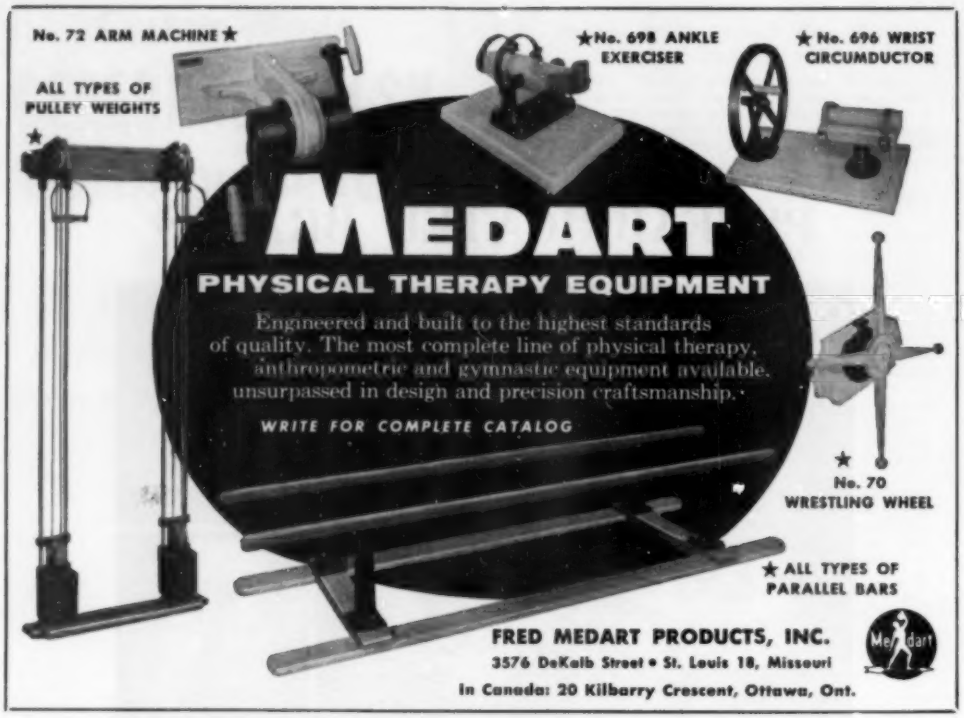
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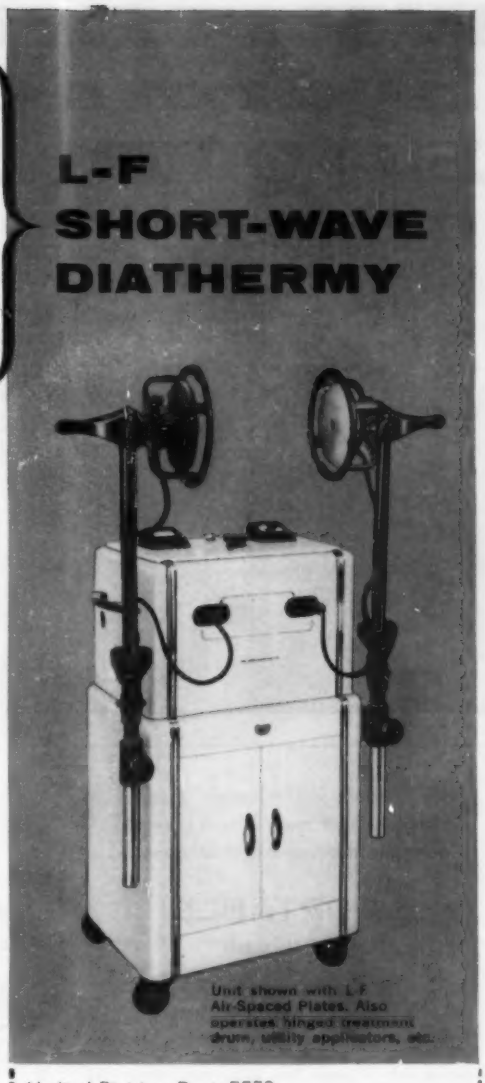

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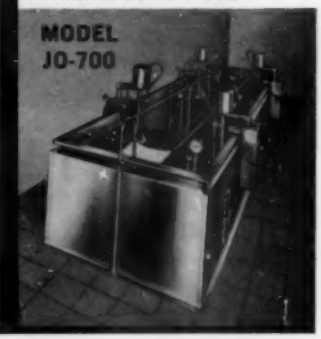

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New Hampshire*†: Apply to Edward W. Colby, M.D., Sec., Board of Registration in Medicine, 61 So. Spring St., Concord. Examinations held at State Health Building, 61 So. Spring St., Concord.

New Mexico*: Apply to Registrar, Physical Therapists Licensing Board, Box 2206, Santa Fe.

New York: Semiannual examinations: June 23-24, December 8-9. File applications at least 30 days in advance. Graduates of registered curriculum apply to John W. Paige, Chief, Bureau of Professional Examinations and Registrations, 23 South Pearl St., Albany 7; graduates of nonregistered curriculum apply to Robert C. Killough, Jr., Assistant Commissioner for Professional Education, 23 So. Pearl St., Albany 7. Examinations are held in Syracuse and New York City.

North Carolina*†: Next Examination November 24. Apply to Edith M. Vail, Sec., Dept. of Physical Therapy, N. C. Baptist Hospital, Winston-Salem. Examinations held at University Testing Center, School of Education, University of North Carolina, Chapel Hill.

Ohio†: Next examination will be held October, 1959. Apply to: Herbert M. Platter, M.D., Exec. Sec., Ohio State Board of Medical Examiners, 21 W. Broad St., Columbus.

Oklahoma*: Apply to Lucy Haidek, Exec. Sec., Board of Medical Examiners, Braniff Building, Oklahoma City. Examinations held at Board of Medical Examiners, Braniff Building, Oklahoma City.

Oregon: Apply to Oregon State Board of Health, 1400 S. W. 5th Ave., State Office Bldg., Rm. 866, Portland 7.

Pennsylvania†: Semiannual examinations, January and July. File application December 15 or June 1. Apply to Marguerite Glass Steiner, Sec., State Board of Medical Education and Licensure, Box 911, Harrisburg. January examination held in Philadelphia; July examinations held in Philadelphia and Pittsburgh.

South Carolina*†: Apply to Ruth S. Linley, Sec., State Board of Physical Therapy Examiners, 319 Walker St., Columbia.

South Dakota*†: Apply to John C. Foster, Exec. Sec., State Board of Medical and Osteopathic Examiners, 300 First National Bank Building, Sioux Falls.

Tennessee†: Annual examination, second Monday in June. File application one month in advance. Apply to State Board of Medical Examiners, 1635 Exchange Building, Memphis. Examinations held in Nashville.

Vermont *†: Next examination will be held Oct. 24, 1959. Apply to Sophie Myers, Sec., Board of Physical Therapy Registration, Degoesbriand Memorial Hospital, Burlington.

Virginia: Semiannual examinations, February and September. Apply to State Board of Medical Examiners, 631 First St., S.W., Roanoke. Examinations held at Medical College of Virginia, Richmond.

Washington†: Annual examination, May. File applications by April 1. Apply to Professional Division, Department of Licenses, Olympia. Examinations held in Seattle.

Wisconsin*: Thrice yearly examinations, April 2-3, Mid-September and at discretion of Examining Committee. File applications at least two weeks in advance. Apply to Emma Zitzer, Sec., Physical Therapy Examining Committee, 207 North Brooks St., Madison 5. April examination held in Milwaukee; September examination held in Madison. Third examination to be scheduled.

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* Information regarding examination dates and/or place of examination will be provided upon receipt of application.

† Examination provided by Professional Examination Service, American Public Health Association, 1790 Broadway, New York 19, New York.

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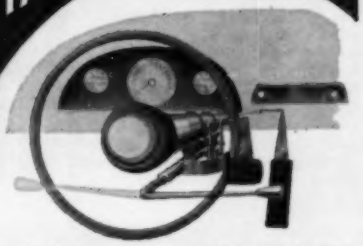

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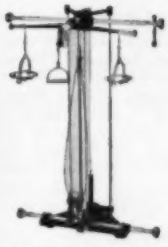

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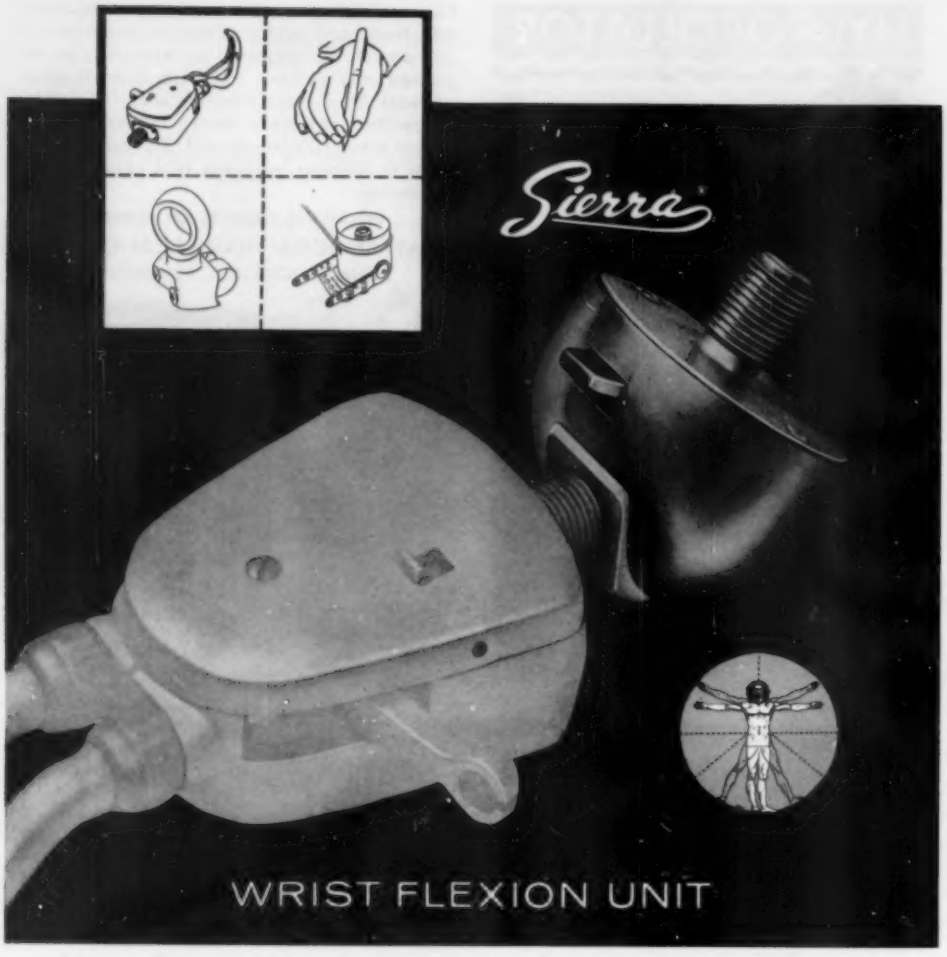

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The Physical Therapy Review

Official Publication of The American Physical Therapy Association

Safe Practices in the Physical Therapy Department*

Donald L. Rose, M.D.

Each of us is concerned with safety and each of us no doubt believes that our work and our actions are surrounded by all possible safeguards. Yet if one looks closely at the over-all picture of the functions of any physical therapy department and measures it carefully with the yardstick of safety he will doubtless find many areas which fail to meet this standard.

As used in the title, the word, safety, does not mean or imply just one thing. It may and usually does mean several things:

1. It means a number of things to the patient who entrusts himself to your care.
2. It means a number of things to the physician who delegates a portion of the treatment of his patient to you.
3. It means a number of things to the hospital which employs you and which has every right to expect that you will carry out safe practices.
4. It means a number of things to the physical therapist who also has every right to expect that the day's activities will transpire safely and who, in the final analysis, must insure that they do transpire safely.

These four areas are irretrievably locked together and cannot be separated except in an artificial sense. To the extent that they can be separated, safe practices will be discussed by their categories. It is hoped, however, that the entire picture will be kept in mind, not merely the isolated factors.

Safety of Apparatus

The best starting point for a discussion of safe practices in physical therapy departments is the equipment itself. Do you have good equipment to work with; it does not have to be the most expensive type of apparatus, but it most certainly is never the cheapest. There are no bargain prices in physical therapy equipment. The hospital gets just exactly what it pays for, at least with respect to cheap equipment. Better made apparatus, although more expensive initially, stands up more satisfactorily under usage, Since equipment is a capital outlay, it should be a one-time expense only. Although this discussion is not directly concerned with the economics of the department, cheap and second-hand equipment frequently is unsafe.

Many of the pieces of equipment are electrical in one sense or another. Electrical outlets should be of the type wherein the receptable and plug can be screwed together and locked. Outlet cables frequently are heavy and if the plug is of the conventional 2-prong bayonet type, the cable weight may disconnect the plug from the outlet. Such incidents are a nuisance to the therapist

* Presented at the AHA Institute for Physical Thrapists, Kansas City, Missouri, Nov. 12, 1958.

From the Department of Physical Medicine, University of Kansas Medical Center, Kansas City, Kansas.

who must stop the current task and restart the device. It is usually a matter of concern to the patient who fears that "something has gone wrong" and it may well cost the confidence of the patient in the procedure and in the therapist. The sudden cessation of current may occasionally shock the patient, particularly in those devices producing a D. C. current. Usually the voltage of the shock, if it does occur, is so low that harm does not come to the patient. However, please do not forget that visible damage is not necessary for the patient to contemplate legal retribution; mental anguish is sufficient grounds for a suit if the patient is so disposed. Wiring must be heavy enough to take peak current loads without overheating. Provision must be made for grounding all apparatus.

Frayed electrical cords and apparatus which need repair should not be worked on during the treatment period. Never tinker with the apparatus in the presence of the patient. If a terminal connection needs tightening, perhaps no harm occurs if it is repaired on the spot. However, in general, it is far better for any repairs to be performed beyond the range of the vision and the hearing of the patient. It should go without saying that comments or explanations to the patient concerning such an incident should be very discreet. Yet, I have on at least a dozen occasions overheard a therapist make a remark along the general lines of, "This old clunker is always giving us trouble during treatments; we never know when or how it is going to act up." The patient expects the apparatus to be in good working order. Worries as to the contrary state should be on neither the patient's mind nor the physical therapist's. Usually, these defects can be picked up by simple inspection. At the end of the day, or at frequent intervals, look over each piece of equipment carefully. Replace screws, tighten nuts or replace connections then. Any trouble with the apparatus should be reported promptly and should be corrected promptly. It is far better to dispense with the apparatus temporarily while repairs are being made than to utilize equipment in need of repair. This is recommended even though it interferes with treatment; the frank comment to the patient that equipment is never used when in doubtful repair does no harm from the public relations standpoint or to the patient-therapist relationship.

One final comment with respect to apparatus and its safe usage. Always provide the patient with some type of warning or signaling device. Take the necessary 15 or 20 seconds to warn the patient to notify you promptly when you are out of the treatment area if there is any matter of concern to him regarding the treatment. We usually underestimate the psychological value of the treatment procedures in general. As a rule, patients are so anxious to get well and so hopeful that the apparatus will get them well that they willingly endure actual damage to themselves and certainly much discomfort in the mistaken belief that these undesirable elements are part of the treatment. The signaling device is almost never used, but it it of great comfort to the patient to have it present. Do not neglect this factor.

THE DEPARTMENT OR CLINIC BACKGROUND FOR TREATMENT

A poorly lighted and ventilated area, one which is obviously cleaned at infrequent intervals and in which an atmosphere of clutter prevails is not conducive to an impression of safe departmental operations. It may be desirable to turn lights off or down during treatment, but good lighting is mandatory. Neatness and cleanliness are as much the therapist's responsibility as the responsibility of the housekeeping department. Frequently the factors of brightness and cleanliness are associated with that of safety in the mind of the patient.

A background of soft music is highly desirable since it may promote the patient's comfort and relaxation. It definitely aids in reducing therapist fatigue. It will also distract patients from listening in on conversations in the immediate area, some of which may be highly confidential. FM radio is probably the least expensive of these means of providing background music. Radio, tape recordings, and phonograph records may be equally useful, provided that the apparatus is in good repair, that the volume is kept low, and if the recordings are properly attended.

SAFETY OF TREATMENT PROCEDURES

One of the most frequently violated treatment axioms relates to the proper preparation of the patient for treatment. With full realization of the pressure on the therapist to conserve time, it must be emphasized that lack of preparation or inadequate exposure of the area to be treated are not the places to "cut corners." Patients have been treated fully clothed or with the treatment area only partially exposed. Patients have been treated with metal objects on or about their persons in the presence of the shortwave diathermy field. This is done even in this day, although we all have heard of instances in which beds have been set on fire, for example, by the heating effect of the diathermy field on the bed springs. Similarly, hot packs have been applied

or whirlpool immersions have been accomplished with inadequate removal of the patient's clothing, so that he leaves the department with his clothing partially wet or damp—and, surely with a poor opinion of the department. Aside from these elements, inadequate exposure of the treatment area leaves the therapist with no real knowledge of the appearance of the area. In our own department I am sure that one potential malpractice suit was averted in an instance wherein the patient alleged that she had been burned during the treatment procedure. However, the therapist had noted the burn on the skin prior to the treatment and had alertly recorded this in her progress notes. Obviously, this fortunate observation would not have been made without exposure and inspection of the treatment area. It is difficult to offer adequate defense against alleged treatment mischief when the therapist must shamefacedly admit that the patient was partially or fully clothed during treatment. Exposure and inspection are, therefore, among the necessary criteria for safe treatment. It is, of course, presupposed that the common sense rules for preservation of the privacy of the patient are never violated by deed or by implication in exposing the treatment area.

The second most common violation of safe treatment practices relates to lack of adequate and written orders for treatment. It is realized that this is a very difficult area in which to insure safety. Some of you may prefer to prescribe your own treatment procedures; this is illegal if the term, prescription, is interpreted strictly. Regardless of your own desires and regardless of the alleged extenuating circumstances, legally you cannot do this. The courts have held repeatedly that the physician cannot delegate his responsibilities for the practice of medicine; physical therapy is held to be a part of medical practice and the responsibility for the determination of these and other treatment procedures rests with the physician. It is realized also that the physician himself may be the culprit in the unethical and illegal shifting of his medical responsibilities onto your shoulders in his vague "prescription" of "P.T. to the back" or some equally nonsensical phrase. One wrong does not require another wrong to correct it. If the physician does not know the proper treatment procedures—and he quite often does not—your responsibility is in the direction of education. You can ethically suggest to him the correct treatment procedures which, if O.K'd by him, become just as legally binding for him as though he had given the treatment orders to you initially.

Directly related to the preceding discussion is the problem of verbal orders. I am sure that every physician who utilizes physical therapy, myself included, has given verbal orders which he expects to have the full force of a written one. When possible, have him write the order. If, for whatever reason, he does not, you write the order and ask him to initial it. When this also is impossible, write the order with his name signed over yours. Do not have an unsigned order. This is not merely a legal safeguard. It is for the immediate information of the physician. It is also for the information of someone other than you who may have to treat the patient.

If you believe an order for treatment to be contraindicated or harmful to the best interests of the patient, contact the physician—out of the vision and sight of the patient—for clarification. I would never blame a therapist for refusal to carry out a given order if he or she felt it contraindicated and could so convince me of the reasons for such. Nor would I feel put upon by the therapist who believes another procedure to be more valuable than the prescribed one and can argue for his own choice of treatment, but I wish to be the one who makes the decision. At the risk of being overly blunt, you can refuse to treat the patient but you cannot change the intent of the prescribed treatment without notifying the physician. I would be greatly disturbed, on the other hand, by the therapist who blindly carries out an improper order for treatment. It should be noted that this unquestioning obedience to a treatment order is a poor defense against malpractice should suit come of a given instance. It is quite possible to challenge an order without being "picky." It is equally possible to influence diplomatically the physician's thinking without giving offense. The dividends from handling this situation safely and diplomatically are in the increased education of the physician who has learned more of helpful procedures and who is far more apt than not to utilize them increasingly in the future.

The variant of the above is what to do with the so-called "third party" ordering—the patient who tells the therapist what the doctor wants her or him to have. Unfortunately, this happens too many times with the error again usually that of the physician. Is it safe to take the patient's word for the treatment desired? No. Always verify this with the physician—again outside the range of vision and hearing of the patient. For the immediate situation you must have a physician to turn to. Ask him for help or advice. Beyond this, write or call the out-of-town doctor for instructions. He will either refer the patient to a local physician for this purpose or will give

you the necessary directions. Perhaps he may do neither, either ignoring your requests or stating that he gave the directions to the patient. If your local physician cannot or will not help you, then you are faced with the unpleasant decision of either not treating the patient, which is quite within your legal rights, or in carrying out the patient-ordered treatment. One case, currently in the courts, concerns an out-of-town patient who told the therapist (employed in a medical group) that her doctor wanted her to have cervical traction. She was given cervical traction with no knowledge of the diagnosis and without verification of the prescription. That evening the patient developed a cerebrovascular accident and blamed this catastrophe on the traction. The therapist has almost no grounds for defense under these circumstances. The physicians of this medical group, who admit that they are responsible for the supervision of the physical therapy department, now find themselves in the uncomfortable position of being co-defendants in a suit over a patient totally unknown to any of them. It is not my intent to discuss the medicolegal aspects of physical therapy. I simply wish to affirm that a treatment order from a patient is not a safe practice. It is not a safe practice under the circumstances outlined. It is not a safe practice either when you ask the patient you have been treating, "Now, what is it again that we give you?" Aside from the obviously poor psychological impact of this thoughtless question upon the patient, you may get the wrong set of directions. Always pull the treatment record or chart at the time of each treatment. You have to do it anyway to record the patient's visit; do it before the treatment.

SAFETY IN RECORDS

Beyond the area of what kinds of records to keep or what is a good or a bad record, there are certain things which relate to the record which make for safety or the lack of it.

The term, therapy, refers to treatment and treatment refers to an effort to ameliorate a given set of clinical circumstances. These circumstances in turn refer to something that happened which has produced alterations in the body. The therapist properly should be concerned, therefore, with the history and physical findings in a given case. Yet I have examined the records in dozens of physical therapy departments and found meticulous attention to the number of short wave treatments administered, or the specialty category of the referring physician, or who is to be responsible for the financial arrangements, but in the tiny space allocated for diagnosis may be the vague term of "arthritis," or "back pain," or sometimes even just the area of medical referral such as "medical" or "surgical"; there was nothing at all regarding what had happened to the patient nor any recorded evidence that the therapist was aware of the pertinent physical findings. Is this a safe practice? I do not think so.

In partial defense of the above, several therapists have told me that their hospital administrator had ordered the physical therapy records to be barren of anything other than what is essentially bookkeeping data. Obviously, physical therapy records can be subpoenaed and come under the scrutiny of the court. The physical therapist or hospital administrator may have to defend or define comments made in such records. Rather than shrink from such obligation, my answer is, "Why not?" Certainly no hospital administrator orders the nursing records of a patient to be barren of data. Why should the physical therapy record be so? Both types of records are concerned with treatment. It would seem a far safer practice to have detailed records than to have only bookkeeping records.

The added advantages of detail in records relate to two areas. The first is concerned with your relationships with the patient. Because the physical therapist works closely with the patient, frequently over long periods of time, there develops a closeness of association that enables the alert therapist to come into possession of information which is of great assistance in the management of the patient. The recording of this information in the confidential record of the patient can do much to elevate the importance of physical therapy in the estimation of the medical profession. The second area relates to the therapist himself. There is much to be said for the repetition of acts which obviously entails reasoning, judgment, and matters which relate to the clinical picture in general; the more skillful one becomes in this respect, the better therapist he becomes.

SAFE PRACTICES BY THE THERAPIST

A problem which has provided more difficulties than perhaps any other single one relates to the conversations and comments which must necessarily ensue between the patient and the therapist. Reference has been made to the close association which frequently develops between the therapist and the patient. Far from undesirable, this is an element which should be exploited to its maximal value, provided that it is done properly. Many years ago Sir William Osler wrote a de-

lightful essay on the analogy between the patient and his conversations with the child and a new penny. With respect to the latter, the child will hold the penny up, will examine it in all possible lighting circumstances, will feel of its roughnesses and smoothnesses, will compare it with other coins, will place it again in his pocket, only to remove it shortly and go through the whole process again. To many of us, this is only a penny; it never changes, so why go through all of these maneuvers? Yet we all know that it is done. The patient does exactly the same with conversations relating to himself. He will try to read hidden meanings into phrases, gestures, or even the absence of a comment which he thinks should have been made. He will compare your opinion with others, including that of his physician. He will not hear many things you will tell him; he will completely misinterpret other things you tell him. He will ask you questions that must not be of any concern to him, such as, "What is the matter with that patient over there?" Granted that one must have the wisdom of Solomon to handle all of these problems safely, there are certain rules of safety which are useful. The first of these is that your own personal approach to the patient must be one of transparently open honesty. Evasiveness, hedging and super-caution are extraordinarily potent seeds of distrust which you sow in the mind of the patient. The second rule is one of unfailing support of the physician. Although I said earlier that one wrong does not require another wrong to correct it, if in your opinion the physician is wrong in his remark to a patient, you are ethically wrong if you confirm this to the patient. If you work for the doctor, don't undermine his treatment efforts. If you wish to discuss a difference of opinion with him in private, this is a different matter entirely.

The third area relates to what has the earmarks of a misunderstanding. If a patient comes to you with some variant of the comment, "I told Dr. Smith what you said to me the other day and he just about hit the ceiling," you must telephone Dr. Smith promptly and tell him just exactly what you did say or its intent. Then you tell the patient that you have just talked to Dr. Smith and that there is no misunderstanding between you. For you to get your own ire up is not safe. For you to let the circumstance drift is not safe. Handling this problem promptly is a safe practice with the physician and the patient alike.

The fourth area relates to the reexaminations of patients by their physicians. For patients with chronic conditions particularly, it is very easy for the therapist to treat the patient month after month with no contact between the physician and therapist or between the physician and patient. This is as much the responsibility of the physician as the therapist. However, at least you carry out your own responsibilities in insisting that the patient return to his physician and that you be in contact with the doctor; safe management of the treatment program is maximal only under these circumstances.

CONCLUSIONS

A number of elements of physical therapy have been discussed which relate to safe practices. Many of these are related to the development of the profession itself. Yet, if a profession is to develop fully, such safe practices must be fostered and carried out to the maximum of each therapist's ability.

Book Reviewers for October

Nila Kirkpatrick Covalt, M.D., Medical Director, The Kirkpatrick Memorial Institute of Physical Medicine and Rehabilitation, Winter Park, Florida.

Charles H. Frantz, M.D., Chairman, Division of Orthopedics, Blodgett Memorial Hospital, Grand Rapids, Michigan.

James E. Griffin, Associate in Physical Therapy, University of Pennsylvania, Philadelphia.

Geneva R. Johnson, Coordinator, Department of Physical Medicine, Medical College of Georgia, Augusta.

Paul F. Wehrle, M.D., Associate Professor of Medicine, State University of New York, College of Medicine, Syracuse.

Abstracters for September

Limited space prevented the publishing of names of Association members who assisted in the preparation of the abstracts in the September *Review*. They are:

Ethel Coeling	Miriam Partridge
Dorothy Kemske	Patricia Pavlis
Geraldine Midgley	Helen Weber
Florence Murley	Virginia Wirtz

Neurotrophic Ulcers of the Foot

Corrective Shoes for Leprosy

Dean P. Currier, M.A.

The neurotrophic ulcer of the foot is a common complication of leprosy. In leprosy certain nerves may become infiltrated by the bacillus, *Mycobacterium leprae*, resulting in partial or complete loss of nerve function. The central nervous system is not involved. In early stages of the disease only anesthesia is present, but as the disease advances the peripheral nerves supplying the extremities always become affected to some degree in both lepromatous and tuberculoid leprosy. In the lower extremities the medial and lateral plantar nerves (terminal branches of the tibial nerve) are the first to become involved, and the involvement occurs at the region of the medial malleolus so that the intrinsic muscles of the feet are the first muscles affected. The results may be hammer toe and hallux valgus deformities. Next the deep peroneal is involved (often concurrently with the tibial nerve) resulting in paralysis of the dorsiflexor muscles, and drop foot.

Weakened muscles can contribute to neurotrophic ulcers because the balance of the foot becomes unstable and leads to changes of weight bearing.[1] Neurologic changes resulting in anesthesia of the skin (loss of heat, cold, touch, and pain sensation) are indirectly the cause of ulcers, due to traumatization of the anesthetic area, and to continued pressure during weight bearing on deformed extremities.[2] Kosiak [3] suggests that sensory involvement appears to be of greater significance than motor involvement, as is illustrated in the relatively rare occurrence of ulceration in the poliomyelitic patient who is able to experience pain and pressure. Other indirect causes of ulcers may be ill fitting and ill styled shoes.

Although surgery is done to correct muscle weakness,[4] and early treatment of ulcers is stressed,[5] the use of corrective shoes for prevention of neurotrophic ulcers in leprosy has not been adequately described in the literature. Preventive foot care can reduce the occurrence of lesions of the lower extremities and the need for hospitalization.[6] Education plays an important role in preventive foot care of the patient with leprosy in that if patients would select properly styled and fitted shoes some problems could be eliminated. Patients with leprosy should be instructed in foot hygiene and should be instructed to modify their activities so as to avoid excessive walking.[4] The use of orthopedic appliances to prevent weight bearing on the sites of affected areas is important.[7, 8]

Department of Physical Therapy, U.S. Public Health Service Hospital, Carville, Louisiana.

Findings

In reviewing the records of 70 patients having foot ulcers it was found that of the total number of ulcers 85 per cent occurred on the plantar surface, 8 per cent on the lateral aspect proximal to the fifth toe, 4 per cent over the dorsum, and 3 per cent occurred elsewhere on the foot. On the plantar surface the most common sites were the head of the first metatarsal, beneath the toe tips (most frequently the great toe), and the head of the second and fifth metatarsals, respectively.

In 18 per cent of the cases in which ulcers occurred on the toe tips or along the lateral surface of the feet, faulty shoes were believed to be the cause.

Calluses on the plantar surface, which often precede ulcers, were most common in the region of the first and fifth metatarsal heads. (Fig. 1)

Ulcers on the plantar surface of the heel have been seen only rarely.

Preventive Treatment

In the orthopedic treatment of disabilities of the foot such as flexible flatfoot, spastic flatfoot, anterior metatarsalgia, Morton's toe, stress fractures of the metatarsal bones, and Freiberg's disease, metatarsal inlays and/or bars have been recommended by Shands.[9]

At Carville, metatarsal inlays, metatarsal bars, and proper fitting and styled shoes have been used in the prevention of neurotrophic ulcers, and

Figure 1. Ulcers and calluses on plantar surface of feet.

as corrective treatment for the ulcers, once they have formed.

1. *The Metatarsal Inlay*

A metatarsal inlay is a spherical-triangular shaped nonrigid support made of sponge rubber. The inlay relieves pressure on the metatarsal heads during weight bearing by supporting the metatarsal and longitudinal arches. The severity of calluses and ulcers is reduced because of redistribution of this weight.

The patient must feel comfortable when using the inlay. Even with skin anesthesia the patient with leprosy can determine if the inlay is suitable or not. Therefore, the inlay must be placed in the shoe in a position to give maximum benefit and comfort. The measurement is determined by having the patient place his heel against a hard surface and measuring the distance from the point of junction of the heel with the hard surface, to the area just posterior to the heads of the middle three metatarsal bones. The measurement can be made either with a tape or caliper. The distance is then laid off in the shoe by placing one end of the caliper against the heel counter of the shoe and the other end cutting an arc. Once the measurement is laid off in the shoe the size of the metatarsal inlay can be determined. Molded inlay forms can be purchased in sizes large, medium, and small.

The inlay has a metatarsal section that supports the metatarsal arch, and a longitudinal section

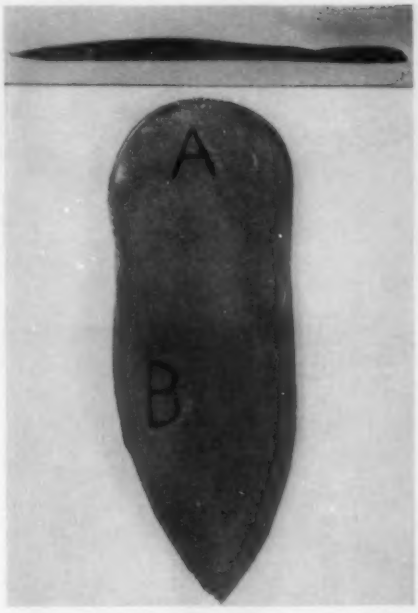

Figure 2. Metatarsal inlay, top and lateral views.
A. Metatarsal section. B. Longitudinal section.

that supports the longitudinal arch. (Fig. 2) The metatarsal section of the inlay is thinned under the tarsometatarsal joints. The longitudinal section is beveled lateralward to a paper-thin edge. Although the metatarsal and longitudinal sections can be fashioned to any desired height, the condition of the individual foot is the determining factor. The metatarsal and longitudinal arch sections are usually smoothed to a height of $\frac{3}{16}$ inch. The molded inlay form is fashioned and smoothed by the use of a motor-driven emery wheel.

When the inlay has been properly shaped, it is ready to be adapted to the shoe. The posterior portion (longitudinal section) is placed against the medial side of the heel counter and the anterior portion (metatarsal section) is placed on the arc so that the metatarsal section falls just posterior to the middle three metatarsal heads. The inlay is glued to the shoe with rubber cement, which permits easy removability or repositioning. A thin plastic insole is glued over the inlay as a cover which permits the foot to slide easily over the inlay when putting the shoe on.

The metatarsal inlay has also been used suc-

Figure 3. Metatarsal bar, bottom and side views. The bar can be dyed to blend with shoe color.

cessfully when patients with leprosy present conditions of pes cavus and pes planus. The purpose of using the inlay for pes planus is to correct pronation and to elevate the longitudinal and metatarsal arches. In pes cavus it is desirable to elevate the metatarsal arch and redistribute the patient's weight.[10] The inlay is then fashioned according to those purposes.

2. *The Metatarsal Bar*

The metatarsal bar is a rectangular shaped block (the anterior portion usually is in the form of an arc) which is attached to the sole of the shoe. (Fig. 3) It can be made from layers of rubber soling and it varies in height from ⅛ to ½ inch. Used to redistribute weight from the metatarsal arch to the shafts of the metatarsal bones, in cases in which calluses or ulcers are present over the metatarsal arch, the bar will relieve the weight-bearing pressure. The bar is used when scar tissue is present from former ulcers, when ulcers are present, and in the prevention of ulcers. Occasionally the metatarsal bar and inlay are used together in treating plantar ulcers.

The measurement for the metatarsal bar is taken by methods similar to those for the measurement of the metatarsal inlay. One-half inch is added to the measurement taken from the foot when the distance is marked on the shoe. This additional ½ inch compensates for the structure of the heel counter of the shoe. A bar 1½ inches to 2 inches wide serves satisfactorily.

Since rubber soling is purchased in sheets of ¼ inch thickness, 2 to 4 layers must be glued together (using all-purpose shoe cement for permanence) to give the desired height when the bar is fitted to the shoe. In fashioning the bar the motor-driven emery wheel is used.

The fully fashioned bar is glued to the shoe. Nails are avoided as far as possible because minor injury from an exposed nail can cause an ulcer.

The patient must be taught the use and purpose of the bar since it is not an attractive addition to the shoe. To produce the best result, some education and adaptation of the patient to its use is necessary.

3. *Selection and Fitting of Shoes*

Careful selection of shoes is most important to patients with leprosy because the use of proper shoes in the early phases of the disease can by prevention of ulcers and resultant deformities save the patient from misery. In the Orthopaedic Appliances Atlas [10] it is stated that "Shoes should always be fitted on the weight-bearing foot. The shoe must be long enough to allow ample room for natural movement of the toes. The tip of the toecap should extend one finger's breadth beyond the end of the great toe. The great toe joint should rest over the abrupt curve on the inner side of the sole, which is the widest part of the shoe. There must be ample room across the ball of the shoe for normal function of the metatarsal arch. The heel counter should fit snugly around the heel and not bulge outward. The upper should lace comfortably and firmly over the instep. If a support or inlay is to be used, the shoe should be sufficient to permit freedom of movement but not so wide as to allow the foot to shift about inside the shoe." All of these precautions apply in the selection of shoes for patients having leprosy.

When selecting the style it is imperative that the following features be stressed in order to insure a proper fit: (1) leather soles to provide rigid support to the feet, (2) plain toe to avoid seams that often cause unevenness in the shoe's lining, (3) blucher type lacers to provide for expansion when edema is present, (4) smooth

Figure 4. A shoe that features styling mentioned in article.

lining to provide even pressure and protection to the feet, (5) correct lasts to conform to the shape of the feet, (6) rigid shanks to give the longitudinal arch support, and (7) snug heel counter to prevent the heel from slipping (combination lasts provide for this). Clemmesen [11] states that a wrongly constructed heel may cause the foot to slide forward and downward in the shoe, causing the forefoot to be overloaded. For this reason an oxford with a 1 inch heel is recommended. (Fig. 4)

SUMMARY

The neurotrophic ulcer of the foot is a common complication of leprosy. The primary cause of ulcers is pressure in the presence of neurologic changes. The most common sites of ulcers in leprosy are over the heads of the metatarsal bones. Use of the metatarsal inlay and bar for prevention of ulcers is described along with the particular features of correct shoes to be used by leprosy patients.

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Films of Interest

The following films were projected during the Film Theater at the 36th Annual Conference in Minneapolis.

DEADLINE 53 MINUTES—30 min., b/w, sd., 1958, United Cerebral Palsy Association, 321 West 44 Street, New York, N.Y., or other U.C.P.A. local affiliates. Dramatizes total effects of cerebral palsy; covers research, treatment, education, and job placement programs of U.C.P.A. Free

SPINAL COLUMN—STRUCTURE AND FUNCTION IN MAN—11 min., b/w, sd., 1956, The Pennsylvania State University, Audio Visual Aids Library, University Park, Pa., or Encyclopedia Britannica. Details of movements, structure, and function. Importance of good posture. Rental: $2.25

THE BRAIN AND BEHAVIOR—20 min., b/w, sd., 1958, New York University Film Library, 26 Washington Place, New York 3, N.Y. Results of stimulation by electrode, and behavior changes following injuries to different parts of the brain demonstrate connection between areas and specific types of behavior. Rental: $6.00

DEMONSTRATIONS IN HUMAN LEARNING—15 min., b/w, sd., 1957, The Pennsylvania State University, Audio Visual Aids Library, University Park, Pa. Gives examples of skills involving serial learning. Relate to examples from every-day life. Rental: $3.50

JUVENILE AMPUTEES CAN BE HABILITATED—12 min., b/w, sd., Department of Public Health, State of Georgia, Atlanta, Ga. Follows a quadruple amputee through the various phases of team approach in the habilitation of a juvenile amputee.

RESCUE BREATHING—25 min., b/w, sd., Nearest U.S. Army Film Library. Designed to teach technics of expired air inflation to all ages in groups of all types.

MOUTH TO MOUTH BREATHING—10 min., b/w, sd., U. S. Army Film Library. Filmed at time actual research studies in resuscitation were in progress.

NO MARGIN FOR ERROR—30 min., b/w, sd., 1959, The William S. Merrell Company, Cincinnati 15, Ohio, Free; American Hospital Association, 840 North Lakeshore Drive, Chicago 11, Ill.; American Medical Association, 535 North Dearborn Street, Chicago 10, Ill. Free. Presents cause and effect of human mistakes in the complex system of the modern hospital and points the way for active cooperation between medical and administrative staffs of the hospital.

NOTE: Requests for use of films must be sent directly to individual distributor. Films are *not* available from the National Office.

Pain Associated with Soft Tissue Syndromes*

EDITOR'S NOTE: As a helpful source of information on the etiology, symptomatology, diagnosis, and treatment of soft tissue or myofascial pain syndromes the reader is referred to Dr. John J. Bonica's article entitled, "The Management of Myofascial Pain Syndromes," published in the June 1959 issue of the *Review*, pages 389-396.

One Method of Treating Subdeltoid Bursitis

Kenneth E. Brown, B.S.

A 50-year-old female who had subdeltoid bursitis of the right shoulder was first seen by her family physician on Nov. 24, 1958. Her chief complaint was a sharp pain in the right shoulder. The pain was intermittent and was no more severe with motion than without; however, when the patient placed her arm in certain positions, the pain was lessened. The treatment given by the physician at that time was an injection of 1 cc. My-B-Den and a prescription for 4 mg. Codeltra to be taken orally four times daily. The patient was seen two days later and another injection of My-B-Den was administered. On Dec. 8, 1958, the patient received a prescription for enteric coated aspirin gr. *x* and was directed to use it two times daily for four days.

The patient's condition remained static for a few weeks when she noticed a sharp pain in the lower third of the arm when she clasped her hands around an object. During the next two weeks the patient could not relieve her pain by positioning her arm. There would be periods of several hours when she would be free of pain, only to have a severe attack of sharp pain in the right shoulder lasting for varying lengths of time. This intermittent pain increased until by the middle of January it became constantly more severe and of longer duration.

The patient returned to the physician's office the first of February, at which time 1 cc. of hydrocortisone was injected into the painful area. When the patient did not respond to a series of four hydrocortisone injections given every other day, three treatments of X ray were prescribed. There was nearly complete relief of pain after a period of two weeks; however, active motion was very painful. The physician then prescribed diathermy and active and passive exercise to the right shoulder to be given by a physical therapist.

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* The three case reports that follow were presented at the Annual Conference of the American Physical Therapy Association, Minneapolis, June, 1959.

When first seen in our department, the patient had approximately 20 degrees forward flexion and 10 degrees of abduction of the right shoulder without pain. The patient was seen daily for one week and diathermy was used for a period of 20 minutes each day. The patient was instructed to do pendulum or free-swinging exercises and passive exercise was given with the patient in a sitting position. Passive motion consisted of forward flexion to and into the painful range; abduction with the palm of the hand in a downward position until 90 degrees could be attained; the arm was abducted as far as possible without pain. The elbow was flexed to 90 degrees and the shoulder was rotated internally and externally. All ranges of motion were given for 10 repetitions.

Because of the distance the patient had to travel, treatments were reduced to three times weekly, but the patient was instructed to carry out exercises at home as best she could. The patient showed good improvement during the first two weeks, at which time antigravity exercises and shoulder wheel exercises were performed. At first, to make a complete cycle, the patient stood on a stool parallel to the shoulder wheel and turned five revolutions of the wheel in either direction. Also, the patient stood facing the shoulder wheel to afford circumflexion in horizontal abduction and adduction. As motion improved, the repetitions of the exercises were gradually increased until she performed 30 revolutions of the wheel in all four directions. At this time the patient had active motion of 90 degrees of forward flexion and 60 degrees of abduction. There was some soreness and minimal pain after the first three weeks of treatment.

It must be emphasized that this patient had a high pain threshold, was very receptive to home instruction, and carried out the program at home very well. She was not the type of patient who thrives on complaints but when she said she was in pain, there truly was pain present. For example, when the radius of the shoulder wheel was increased and it became difficult for her to attain this new range of motion, she would do her best to cooperate. In fact, she explained that she was more concerned with motion than with pain.

Her home program now consisted of antigravity exercises, climbing the wall with her fingers, and putting her right hand behind her as far as possible. Each exercise was done 10 times twice a day.

External rotation increased at a uniform rate. However, improvement in internal rotation was less readily achieved. By the first of April, approximately two months after physical therapy was initiated and four months after her first visit to her physician, she had 170 degrees of active forward flexion and 160 degrees of abduction, nearly normal

external rotation, and 60 degrees of internal rotation.

Fibrositis of the Left Shoulder

Emilie M. Hines, B.S.

Mrs. J., a 35 year old secretary, came to the physician complaining of pain in her left shoulder which she had had intermittently over a period of three years and which seemed to be worsening. She had just returned from a week-end trip, where she had driven a car for a full day both ways avoiding use of her left hand as much as she could because the pain had been so acute.

She was well developed and an exceedingly busy and active person. Physical examination revealed an extremely tender trigger area at the superior angle of the left scapula, with pain radiating to the shoulder joint and down the vertebral border of the scapula. Some fibrositic nodules were palpable, but the musculature was quite relaxed. Motion of the arm and shoulder was painful, but there was no limitation. The patient was referred for physical therapy with a diagnosis of "fibrositis—left shoulder. Prescription—diathermy and massage."

After four daily treatments, the patient reported about 90 per cent relief from pain, and did not return. Several months later, she again went to her physician suffering from an acute episode of the same pain. In the meantime, she had had chronic, subacute pain with remissions and exacerbations. This time the physician re-ordered diathermy and massage and also posture training and exercise.

The diathermy and massage again relieved the acute pain. The patient, who was already posture conscious, was taught correct posture, particularly as related to the head, neck, and shoulders. She was also taught exercise for the thoracic outlet [1] and shoulder girdle. In this exercise, the patient stands facing a corner of the room with her hands on the wall on either side at shoulder level. With body straight, the patient bends her elbows and leans toward the corner taking her body weight on her shoulders. The physician then gave a standing order that diathermy be given whenever the patient experienced occasional discomfort. She came for treatment four times in the next two years.

Mrs. J. has corrected her posture and is careful that she maintains correction. She still does the "corner" exercise occasionally when she feels her shoulder muscles are "tightening." For the past four years she has had no real pain or discomfort.

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Chief Physical Therapist, Los Alamos Medical Center, Los Alamos, New Mexico.

Medical Galvanism in the Treatment of Acute Myositis

Lola E. Smith, M.S.

CASE 1

A 43 year old male was seen by his physician on Apr. 10, 1959, at which time he complained of sharp, interscapular pain upon movement of his left upper extremity. Examination revealed tenderness of the left rhomboideus major with a palpable trigger point area in the medial one third of the muscle. A diagnosis of acute myositis of the left rhomboideus major was made, and a prescription for medical galvanism was given.

Using a 3 by 3 inch electrode from the positive pole over the trigger point area and a 5 by 8 inch electrode from the negative pole over the posterior surface of the left thigh, 10 milliamperes of constant current were applied for 15 minutes. The patient reported a marked decrease in pain, but the trigger point was still tender and palpable. Using a "testing" electrode and 6 milliamperes of current from the positive pole, the muscle was massaged in a longitudinal direction for approximately 3 minutes with emphasis on the trigger point area. The patient reported marked relief; however, there still was some tenderness when deep pressure was applied. The palpable area had diminished in size.

The following day, the patient reported mild soreness with no acute pain, but the tender area could be located with deep pressure. The treatment was repeated using the same procedure. At the end of this treatment period, there was complete range of pain-free motion.

He was seen on April 13 by the referring physician and was discharged since he had been symptom-free for two days.

CASE 2

A 23 year old male, complaining of pain in the left paraspinal muscles, was first seen on March 9, 1959. Examination revealed good, but guarded motion in trunk flexion, extension, and lateral bending. With the patient in the prone-lying position, there was marked elevation of the left sacrospinalis muscles in comparison to the right muscle groups. Tenderness was present from the level of the seventh thoracic vertebra to the sacrum. A diagnosis of myositis was made, and medical galvanism was prescribed.

With the negative electrode proximally located, 3 by 3 inch electrodes were placed longitudinally over the muscle group. Eight milliamperes of current were applied for 15 minutes. At the end of this

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period, pain, although reduced, was still present, and elevation of the muscle group persisted. The muscle was massaged with a "testing" electrode from the positive pole. There was relief from pain upon motion, and the patient reported a feeling of "stiffness."

The patient was seen the next day at which time he reported mild soreness. Medical galvanism again was administered, according to the previously described procedure. No subjective change was reported.

On the third day, when seen by the referring physician, the patient was free of symptoms.

The *Review* invites case reports from physical therapists who have followed an interesting course of treatment with or an unusual response to treatment by patients having one of the conditions listed below.

Diabetic neuropathy
Paralysis agitans—postchemopallidectomy
Volkmann's ischemic contracture
Dupuytren's contracture
Osteoarthritis
Coronary thrombosis
Cerebral palsy with sensory disturbance
Postmastectomy lymphedema

NOTE: Suggestions for preparation of case reports were published in the October 1957 issue of the *Review*, pages 666-667. Reprints of the suggestions may be requested by writing to the *Physical Therapy Review*.

Suggestions from the Field

"Saran-Wrap" Used to Reduce Friction

R. V. Russell

A new approach to the problem of reducing friction between an exercise board and the patient's heel exists in the use of "Saran-Wrap."

A 3 inch strip of "Saran-Wrap" (the "queen" size roll gives the longest strip) is wound around the ankle and heel, with possibly a small piece of sponge rubber next to the heel to act as a shock absorber.

If the calf of the leg touches the board, another wrapping of "Saran-Wrap" can be wound around to protect this part. The layers of "Saran-Wrap" will cling together, but a piece of "Scotch tape" can be used to hold down the end of the strip if it works loose.

It will be found that there is enough slipperiness in the "Saran-Wrap" to allow for unrestricted movement, even if an ordinary plywood board is used instead of pressed wood. With care, the wrap may be used several times as it does not tear or wear through easily. This method of reducing friction eliminates the need to "clean up," as when talcum powder has been used.

Mr. Russell, president of a manufacturing company, devised this method while hospitalized following surgery.

Coming Meetings

Oct. 2-Oct. 3	American Medical Writers Association, Chase Hotel, St. Louis
Oct. 5-Oct. 8	American Academy of Pediatrics, Palmer House, Chicago
Oct. 12-Oct. 15	American Association of Medical Record Librarians, Radisson Hotel, Minneapolis
Oct. 16-Oct. 23	American Occupational Therapy Association, Hotel Morrison, Chicago
Oct. 19-Oct. 23	American Public Health Association, Convention Hall, Atlantic City
Oct. 26-Oct. 28	Maryland-District of Columbia-Delaware Hospital Association, Hotel Shoreham, Washington, D. C.
Oct. 26-Oct. 28	National Rehabilitation Association, Statler-Hilton Hotel, Boston

Red Cross Adopts "Mouth-to-Mouth" Lifesaving Method for Adults

The American Red Cross has announced official adoption of the "mouth-to-mouth" technic of artificial respiration for adults as well as children. Teaching of the method in Red Cross first aid and water safety courses will begin immediately.

The technic was declared the most practical in a unanimous verdict of a committee of the National Academy of Sciences-National Research Council after a thorough review of artificial respiration data.

A. W. Cantwell, national director of Red Cross Safety Services, explained that the Red Cross delayed announcement of its adoption of the method only long enough to prepare and have published an instruction manual for use of its volunteer class instructors. Distribution of copies of this manual to the 3,700 Red Cross Chapters was completed early in July. It was issued as a supplement to the most recent edition of the Red Cross First Aid Textbook, published in 1957.

The technic, also called "mouth-to-nose" respiration, dates back to Biblical times.

Instructions on performing this type of resuscitation, to be started immediately on discovery of the unconscious person, are as follows:

If there is foreign matter visible in the mouth, wipe it out quickly with the fingers or with a cloth wrapped around the fingers. Then

1. Tilt the head back so the chin is pointing upward (See fig. 1). Pull or push the jaw into a jutting-out position (See fig. 2 and 3). These maneuvers should relieve obstruction of the airway by moving the base of the tongue away from the back of the throat.

2. Open your mouth wide and place it tightly over the victim's mouth. At the same time pinch the victim's nostrils shut (See fig. 4) or close the nostrils with your cheek (See fig. 5), or close the victim's mouth and place your mouth over the nose. Blow into the victim's mouth or nose. Air may be blown through the victim's teeth, even though they may be clenched. The first blowing efforts should determine whether or not obstruction exists.

3. Remove your mouth, turn your head to the side, and listen for the return rush of air that indicates air exchange. Repeat the blowing effort.

There are two major differences in procedure between administering mouth-to-mouth resuscitation to a child and to an adult. One applies to the breathing itself. For a child, take relatively shallow breaths appropriate to the child's size at the rate of about 20 a minute. For an adult, blow vigorously at the rate of about 12 breaths a minute.

The other difference relates to initial failure to get air exchange. If this occurs, recheck head and jaw position. In the case of a child, up-end it by holding the ankles and administer two or three sharp slaps between the shoulder blades. An adult, who cannot be lifted easily, can be turned on his side so that the blows on the back can be given in an effort to dislodge obstructing matter.

Additional reference: Film, *Rescue Breathing*. See page 677 for details.

(continued on page 705)

Editorial

Thoughts on Security

Although the word, security, holds meaning for all of us, unless an adjective qualifies the noun, the meaning has no specificity. With the advent of space satellites and long range missiles, international and national security have become "stars" of first magnitude. Government workers perform "security checks," in the interest of national security; in another connotation we are informed that a number of aged citizens have received checks through Social Security. Popular magazines and the daily press carry articles stressing the importance of emotional security. Somewhere between the emotional security within us and security related to our environment, there are other forms of security which are important to us as physical therapists.

Job security because the demand for physical therapists exceeds the supply is common to all of us. A physical therapist must be grossly inadequate to want for work in his field. For the present, at least, few of us will know the hardship of seeking and not being able to find a way to earn a living. The physical therapist's, the physician's and the hospital's security may be jeopardized, however, and our professional status may suffer when nonprofessional assistants are delegated as agents of the physical therapist or the physician and are given responsibility for patient care beyond the level warranted by their training and education. Conversely, professional security is threatened when we fail to delegate authority for those minor tasks which can be performed under the supervision of a properly qualified physical therapist. If considered judgment is used, all can benefit from the use of nonprofessional assistants; the physical therapist will more adequately serve more patients in the best interest of the hospital's and the department's economic welfare with resultant benefits to the physical therapist.

A standard of education is common to all of us who received our training in schools approved by the Council on Medical Education and Hospitals of the American Medical Association or, if we studied physical therapy before 1936, by the American Physical Therapy Association. We have been fortunate to have had guidance which directed us to approved schools and in having had financial resources or support for our education. Knowing that by educational prepara-

Editorial

tion we are qualified to treat the patients entrusted to us by physicians of any specialty or general practice lends to our professional and economic security. Those who have earned baccalaureate, master, or doctoral degrees have enhanced their professional status and security. The relatively few who have not earned a baccalaureate degree, and whose retirement from the field is not foreseen within the next few years, should give serious thought to obtaining for themselves this minimum level of education.

Eligibility to licensure or registration under the laws of the states where 74 per cent of our more than 6,000 active members work contributes a measure to our professional security. Although the primary purpose of licensure must be to protect the public from unqualified practitioners who purport to be physical therapists, laws regulating the practice of any profession have the by-product of security for that profession. There are now physical therapy practice acts in 35 states and Hawaii. Without our high standards of ethical conduct and without recognition of the value of our work by physicians and by the public, we could not have gained this enviable record. Until there is an administrable law in each state, the practice of physical therapy independent of the physician's prescription and direction can exist; the public will not be protected; and our professional standards will be less than secure. Physical therapists who fail to recognize the purpose of the law and who abet violation or noncompliance with the law are a threat to the security of patients, physicians, physical therapists—and to our professional status. We must continue to work toward the unquestionably valid goal of protection of the public through enactment of adequate laws and enforcement of existing laws.

We, through membership and participation in our professional organization on the national and local levels, have security to a degree not otherwise possible. Through our Association we have the opportunity to set the goals for our profession, to meet with our colleagues, and to attend educational meetings, institutes, and conferences which keep us abreast with developments in our field. Continuing education and updating of our knowledge and skills is necessary to our security. Guidance of students to the field has been emphasized by our national and local organizations in order that the needs of patients may be met. Increasing the supply of carefully selected and properly trained physical therapists adds to our security in that the hazard of lowering standards is lessened.

Through our professional organization we are able to purchase health and accident insurance at an advantageous premium. An opportunity of this kind is especially important to a professional group the livelihood of whose members depends upon physical activity as well as mental effort.

Professional liability insurance, available since 1957 at lower than usual cost, offers security to active members of the Association who are not otherwise protected. The physical therapist may be held responsible for his own acts regardless of ethical practice and his place of employment; he has a responsibility to himself and

Editorial

the patients he treats to protect himself in this regard.

These many facets of security are affected by external factors and to an extent are internal aspects controlled by us as individuals or as members of a professional group. There is one important facet of the practice of our profession which may be considered to be beyond our area of responsibility and which refers to the security necessary to us in our professional work—the physician's prescription.

No physical therapist who has been taught to follow the prescription and direction of physicians and who has accepted this tenet of our Code of Ethics can ever find security in a vague and indefinite prescription. Nor can he find security in a prescription which is so limited that there is no provision made for the patient to be stimulated by increasing demands. The prescription which gives no latitude to the physical therapist and which provides no opportunity for the patient to be reviewed daily by the physician only frustrates the therapist, bores the patient and slows his rate of progress, and defeats the physician's goals for optimum recovery in an optimum period of time. Less than adequate as well as too stringent prescriptions may foster unethical practices by physical therapists. The only physical therapists who find security under such circumstances are those who refuse to think or who curb their inherent desires to help the patient. Other physical therapists who have security in their own knowledge and skills will be able to discuss with the physician the plan of treatment for the patient. The knowledge and skills of the physician will enable him to adequately guide the physical therapist. Until all of us have related ourselves to physicians in a way which permits us to communicate the needs and responses of the patient, there can be none of this phase of security in our professional lives.

In this issue of the *Review*, Dr. Donald Rose discusses safe practices in a physical therapy department. Those who attended the American Hospital Association's Institute for Physical Therapists in Kansas City last November heard Dr. Rose's advice. The points he has made bear emphasis and are worthy of review and study. Dr. Rose's closing comment, "Yet if a profession is to develop fully, such safe practices must be fostered and carried out to the maximum of each physical therapist's ability," places the responsibility with us. The acceptance of ethical, legal, and professional responsibilities by each of us is intertwined with our security—economic and professional. It is our obligation to become knowledgeable of our Code of Ethics, of interpretations and opinions rendered by the Judicial committee, intelligent and safe practices, legal aspects of the practice of our profession, and the laws of the state where we are employed. By understanding and adherence to the guidelines developed by our group, our separate and aggregate professional status will become secure.

DOROTHY E. VOSS
Editor in Chief

Association News

Chapter News

Alaska

Although no Chapter members were able to attend Conference this year, they were well represented through a photographic exhibit. Informal pictures of the members framed a map of the 49th State which portrayed the location of facilities where members are employed.

Georgia

The Chapter newsletter mailed postconference time contained: a short résumé of the Minneapolis Conference and the House of Delegates actions; the note that space at the Southeastern Fair Association has been allotted for a Chapter display; and blanks for application for license are available from the Chapter Secretary or Legislative Committee Chairman.

Iowa

The report of the Chief Delegate to the 36th Annual Conference received a two page spread in the July Chapter newsletter. Highlights of the House of Delegates were reported for the benefit of the members who did not attend Conference.

Michigan—Eastern District

The District newsletter Editor's Note for July reveals what the summer can do to chapter and district activities. "As usual, your editor has goofed. Gardening is much more fun than pounding on a typewriter—. The weeds are going to grow no matter what, so—get busy on this long overdue newslettter."

New York—Greater New York District

Memorial Day on Governor's Island in New York Harbor was the setting for the District's Annual Lobster Bat. Members, relatives and guests enjoyed the lobster, steak, and franks in a very pleasant picnic area at Fort Jay; 150 persons left the island food-happy and slightly sunburned.

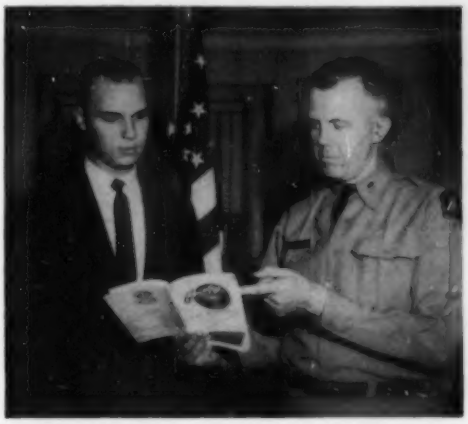
The newsletter provides a list, with address for contact, of several booklets and reprints available to the members.

Pennsylvania—Eastern District

The District didn't plan a summer picnic and cook-out as a 1960 conference fund raising project, but $20.00 was one of the profits of the evening, at the country home of a member and his student member son.

A July evening at the Philadelphia "Playhouse-in-the-Park" was planned as a Conference fund raising project. The financial returns from this theatre party are still being counted.

Member Commissioned



Donald W. Stanek and Col. James N. Shigley, Adjutant General Section, Headquarters Fifth U. S. Army, discuss the Army Medical Service Guide for Students.

Donald W. Stanek, commissioned a second lieutenant in the Army Medical Specialist Corps July 16, is the first physical therapist in the Fifth Army area to receive a commission in the Corps since 1956.

Lieutenant Stanek will report to the officer orientation class, Army Medical Service School, Brooke Army Medical Center, Fort Sam Houston, Texas, prior to joining the physical therapy

staff of Walter Reed Army Hospital, Washington, D.C.

Lieutenant Stanek received his physical therapy education at the University of Kansas Medical School. He is an active member of the APTA.

White House Conference on Children and Youth

The American Physical Therapy Association is one of nearly 500 national organizations affiliated with the Golden Anniversary White House Conference on Children and Youth. Seven thousand delegates will receive invitations from the President of the United States to attend the conference which is scheduled for March 27—April 2, 1960 in Washington, D. C. This is the sixth such decennial conference held in the United States since President Theodore Roosevelt called the first in 1909.

The Council of National Organizations on Children and Youth of the Golden Anniversary White House Conference on Children and Youth is the framework joining the several hundred organizations of widely different size, interests, and character. Shared by all is a concern for the well-being of children and youth that is expressed through each organization's own programs and activities.

Lucy Blair, Acting Executive Director, is the person officially designated to represent the APTA on the Council.

The Council of National Organizations is one of three major groups functioning in preparatory work for the conference. Others are the National Council of State Committees on Children and Youth, made up of Governor-appointed citizen committees in every state and territory and the Interdepartmental Committee on Children and Youth, representing 34 agencies of the Federal Government.

Combined, they already have brought several million Americans into preconference activity, taking national inventory of the needs, services and problems of children and youth, and furnishing this information to White House Conference headquarters in Washington.

National Organizations Asked to Evaluate Own Programs

The White House Conference is receiving reports from national organizations represented in the Council of National Organizations on Children and Youth evaluating their own programs in terms of the *future*. Each organization has been asked to identify some of its major unsolved problems, some of the areas in which it plans to give added future emphasis, and to formulate possible recommendations addressed to itself and others. These evaluations will be synthesized and edited as part of a volume of national organization material to be furnished to delegates as part of their background for the White House Conference.

Conference Program

"The broad concerns of every national organization affiliated with the Golden Anniversary White House Conference will be included in some phase of the Conference program during the week of March 27—April 2, 1960," according to Dr. Philip S. Barba of Philadelphia, chairman of the Committee on Program for the White House Conference on Children and Youth.

Dr. Barba explains that the program format for the conference will deal with youth from an interdisciplinary approach, rather than from a specialist approach.

Each delegate will be assigned to a workgroup of not more than 30, including lay and professional persons interested and active in fields relating to children and youth. The subject to be discussed in each workgroup will cut across discipline lines so as to stimulate new perspective and broaden knowledge by exchange of information and experiences.

National organizations can make a special contribution to conference follow-up via their already existing networks of state and local units. Their membership will be in a position to inspire general citizen action, starting next April, to meet the needs of youth revealed through the conference.

In so doing, each organization will be furthering its own aims on behalf of children and youth. Each can be thinking now about how it will shape its own assignment to see that new services, new technics, and new approaches come into being in line with the Conference's inspirational theme.

September Meeting

All members of the Council of National Organizations on Children and Youth of the Golden Anniversary White House Conference on Children and Youth were invited to send two representatives to a meeting of the Council which was held September 21 and 22 at the Department of Health, Education, and Welfare in Washington, D. C. Plans for participation of national organizations in the White House Conference were discussed and developed at that time.

American Physical Therapy Association

Association Officers, Standing and Advisory Committees

Board of Directors

President:	Agnes P. Snyder*, San Antonio, Tex.	1958-1961
1st Vice-President:	Mary E. Kolb*, Leetsdale, Pa.	1958–1961
2nd Vice-President	Dorothy Hewitt, Los Angeles, Calif.	1958–1961
Secretary:	Jean Bailey*, Milwaukee, Wis.	1958–1961
Treasurer:	Anthony DeRosa*, Hartsdale, N. Y.	1958–1961
Directors:	Sarah W. Bassett, Boston, Mass.	1958–1961
	James M. Bauer, Storrs, Conn.	1958–1961
	Edna M. Blumenthal, Durham, N. C.	1958–1961
	Kathryn J. Shaffer, Swampscott, Mass.	1958–1961
	Elizabeth C. Addoms, Brooklyn, N. Y.	1958–1960
	Dorothy A. Graves, Los Angeles, Calif.	1956–1960
	Susanne Hirt, Richmond, Va.	1956–1960
	Dorothy Fredrickson, Nashville, Tenn.	1959–1962
	Arthur Brown, Newark N. J.	1959–1962
	Florence Linduff,* Washington, D. C.	1959–1962

* (Member of the Executive Committee)

Advisory Council

Eric Denhoff, M.D., Providence, R. I.	1958–1961
Thomas F. Hines, M.D., New Haven, Conn.	1956–1961
William T. Sanger, Ph.D., Richmond, Va.	1958–1961
A. R. Shands, Jr., M.D., Wilmington, Del.	1956–1961

Standing Committees

Conference Program Committee

Hazelle M. Erickson, *Chairman*, Minneapolis, Minn.	1957–1960
Mary E. Kolb, Leetsdale, Pa.	1958–1961
Lois Wellock, Ph.D., Chicago, Ill.	1959–1962

Finance Committee

Anthony DeRosa, *Chairman*, Hartsdale, N. Y.	1958–1961
Eleanor J. Bader, Wilmington, Del.	1956–1960
Alfred J. Szumski, Richmond, Va.	1958–1961

Judicial Committee

Clara Arrington, *Chairman*, Washington D. C.	1954–1960
Anna L. Sweeley, El Centro, Calif.	1956–1962
Harold Glicklin, Windsor Locks, Conn.	1958–1962
Ivan C. Kline, Jacksonville, Fla.	1958–1964
Alma H. Maga, Flossmoor, Ill.	1958–1964

Nominating Committee

Dorothy Baethke, Philadelphia, Pa.	1959–1962
Ruby Decker, Galveston, Texas	1959–1962
Gladdes Neff, Long Beach, Calif.	1958–1960
Beth Phillips, Milwaukee, Wis.	1958–1960
Virginia Wilson, Ann Arbor, Mich.	1958–1961

Review *Editorial Board*

Associate Editors

Barbara Fris, *Chairman*, Bethesda, Md.	1956–1960
Kathryn J. Shaffer, Swampscott, Mass.	1954–1960
Jessie F. Waddell, Lansing, Mich.	1957–1959
Marian Williams, Ph.D., Palo Alto, Calif.	1958–1960
Margaret Bryce, Los Angeles, Calif.	1959–1961

Advisory Committees

Advisory Committee on Chapter Activities

Helen Blood, *Chairman*, Menlo Park, Calif.	1956–1961
Wayne H. Perdue, Omaha, Neb.	1956-1961
Dorothy Page, Albany, N. Y.	1957–1962
Ellen Smith, St. Petersburg, Fla.	1958–1963
James Zimmerman, Columbus, Ohio	1959–1964

Advisory Committee to the Department of Professional Education

Dorothy Behlow, Los Angeles, Calif.	1959–1962
Thelma Pederson, Norman, Okla.	1958–1963
Beth Phillips, Milwaukee, Wis.	1958–1961
Dorothy Hoag, Denver, Colo.	1958–1960
Marjorie Ionta, N. Weymouth, Mass.	1958–1964

Advisory Committee to the Department of Professional Services

Evangeline C. Craig, *Chairman*, Dallas Tex.	1956–1961
Daniel Strelnick, Wauwatosa, Wis.	1956–1961
Betty Nichols, Atlanta, Ga.	1958–1962
Marguerite Du Rette, Portland, Ore.	1958–1963
Elizabeth J. Davidson, Harrisburg, Pa.	1958–1964

Ad Hoc Committees

Advisory Committee to American Physical Therapy Association Representative to World Confederation for Physical Therapy

Agnes P. Snyder, San Antonio, Tex.
Mary E. Kolb, Leetsdale, Pa.
Mildred Elson, Woburn, Mass.
Lucy Blair, New York, N. Y.

Committee on Examinations

Sarah Rogers, *Chairman*, New York, N. Y.
Elizabeth Addoms, Brooklyn, N. Y.
Martha Wroe, Gainesville, Fla.
Lorraine Lake, St. Louis, Mo.
Dorothy Fredrickson, Nashville, Tenn.

American Hospital Association Institute for Physical Therapists

Each active member has no doubt had an opportunity to study the informational material pertaining to the next American Hospital Association Institute. As a reminder, the dates are November 9-13, Rice Hotel, Houston, Texas. If you have not received an announcement and application, please contact the American Physical Therapy Association or American Hospital Association.

The Texas Chapter is making final plans for another successful Institute and some outstanding persons have agreed to participate. However, since enrollment is limited, we urge you to discuss your possible attendance with your administrator and submit your application to the American Hospital Association promptly so there is no delay in processing.

We look forward to meeting many physical therapists and to the opportunities to exchange ideas on departmental administration and management and on professional growth. Formal lectures and informal discussion periods will be thought provoking and will challenge all of us in developing sound management practices.

Elections—1960

Directors and Nominating Committee

Annual elections are necessary under the present structure of the Association. The Nominating Committee urges that immediate attention be given to suggesting possible candidates to fill the following vacancies which will occur in June, 1960.

Three directors to serve terms of three years. (These are to replace Elizabeth Addoms of New York City, Dorothy Graves of Los Angeles, and Susanne Hirt of Richmond, Virginia.)

Two members of the Nominating Committee to serve terms of three years. (These are to replace Gladdes Neff of Long Beach, California, and Beth Phillips of Milwaukee, Wisconsin.)

The 1959-60 composition of the Board of Directors, Standing and Advisory Committees appears on page 687 of this issue of the *Review*. This listing also reveals geographical representation.

The Nominating Committee will recommend a slate of candidates from the suggestions made by the membership, but the membership must first make its recommendations. Chapters have been asked to submit suggestions for nominees. Individual members may also send to the National Office by Nov. 1, 1959, the names of any members they feel are especially qualified to serve for specific positions.

Marriages

Patricia Allen, of Minneapolis, Minn., now Mrs. Patricia A. Dion, Minneapolis.
Lucille E. Alvord, of Newton Centre, Mass., to Donald W. Swan, Millis, Mass.
Betty Bair, of Camp Pendleton, Calif., now Mrs. Betty B. Lawson, Camp Pendleton.
Constance Belot, of Milwaukee, Wis., to R. J. Prahl, Cicero, Ill.
Martha J. Cahoon, of Dennis, Mass., now Mrs. Martha C. Works, Needham Heights, Mass.
Philomena Cardone, of Newark, N.J., to Patrick Duggan, Newark.
Emma P Cargill, of Phoenixville, Pa., now Mrs. Emma C. Pattersen, Fort Knox, Ky.
Katie L. Cawley, of Hot Springs, Ark., now Mrs. Katie C. Ashmore, Hot Springs.
Rita Cleveland, of Warren, Mass., to Richard J. Fagan, Minneapolis, Minn.
Betty J. Cobb, of Lake Placid, Fla., now Mrs. Betty C. Scott, Miami, Fla.
Jane Conner, of Grand Rapids, Mich., now Mrs. Jane C. Toot, Evanston, Ill.
Harriet Cronk, of Jamestown, N.D., to Willis E. Deery, Jamestown.
Jane R. Deininger, of McLean, Va., to R. D. Whitaker, Arlington, Va.
Katherine Doyle, of So. Pasadena, Calif., now Mrs. Katherine D. Brown, San Diego, Calif.
Willa England, of Girard, Ohio, now Mrs. Willa E. Hummer, Girard.
Ruth Fiacchino, of N. Andover, Mass., now Mrs. Ruth F. Cole, Knoxville, Tenn.
Myra A. Fuhr, of Buffalo, N. Y., now Mrs. Myra F. Beneke, Williamsville, N.Y.
Jacqueline Geis, of Fort Lauderdale, Fla., now Mrs. Jacqueline G. Treece, Fort Lauderdale.
Patricia Golden, of Albany, N.Y., to Thomas Cutie, Cohoes, N.Y.
Nancy E. Hirschboeck, of Milwaukee, Wis., to Michael Jaekels, Park Forest, Ill.
Lois Judd, of Maywood, Ill., to George Monto, Chicago, Ill.
Carol Kritt, of Chicago, Ill., to Howard Rosenblum, Los Angeles, Calif.
Velda E. Marcum, of Kansas City, Mo., to Ronald M. Frederick, Kansas City.
Karen McClave, of Orange, N.J., now Mrs. Karen M. Nicholls, Millington, Tenn.
Barbara McWhorter, of New Haven, Conn., now Mrs. Barbara M. Stokoe, Delmar, N.Y.
Manuela Melendez, of Santurce, P.R., now Mrs. Manuela M. Estrada, Santurce.
Janna Murray, of Pampa, Tex., to R. G. Alexander, Houston, Tex.
Linda R. Nelson, of Detroit, Mich., to E. R. Collins, Detroit.
Constance A. Northrup, of Springfield, Mass., now Mrs. Constance N. Wickman, Springfield.
Gertrude Oliver, of Baltimore, Md., to Jerry McKenzie, Cleveland, Tenn.

Jewel Peck, of Peoria, Ill., now Mrs. Jewel P. Fleming, Colchester, Ill.
Joan Silverberg, of Birmingham, Ala., now Mrs. Joan S. Bergman, Birmingham.
Martha C. Smith, of Scott AFB, Ill., now Mrs. Martha S. Sperandio, Scott AFB.
Marcene Steffen, of Great Bend, Kans., now Mrs. Marcene S. Olson, Topeka, Kans.
Corinne Terhune, of Burley, Idaho, now Mrs. Corinne T. Ellingham, Minneapolis, Minn.
Frances A. Trivison, of Cleveland, Ohio, now Mrs. Frances T. Chepey, Youngstown, Ohio.
Janet A. Thorne, of Walnut Creek, Calif., now Mrs. Janet T. Ramseier, Carmichael, Calif.
Victoria H. Waller, of Madison, Wis., to Douglas A. Yanggen, Madison.
Bonnie L. Weiler, of Philadelphia, Pa., to John C. Jackson, Reading, Pa.
Phyllis Wilcken, of Salt Lake City, Utah, now Mrs. Phyllis W. Clapp, Salt Lake City.
Beverly D. Williams, of Bridgeport, Conn. now Mrs. Beverly W. Novak, Fairborn, Ohio.
Daphne Williams, of Cincinnati, Ohio, to Ernest L. Robinson, Covington, Ky.
Eleanor Williams, of Omaha, Nebr., to John Steffen, Omaha.
Winifred G. Williams, of Asheville, N.C., now Mrs. Winifred W. Cawthorn, Statesville, N.C.
Jean Woolley, of Pawtucket, R.I., now Mrs. Jean W. Plourde, Pawtucket.
Betty J. Zachary, of Peapack, N.J., to Robert C. Wagner, Basking Ridge, N.J.
Barbara R. Zwicker, of Milton, Mass., to Kenneth W. Brenton, Hartford, Conn.

Members' Publications

Dorothy Fredrickson, Director, Physical Therapy Department, Vanderbilt University Hospital, is co-author with Robert E. Merrill, M.D., of an article entitled "Landry-Guillain-Barré Syndrome" published in the *Journal of Pediatrics*, June, 1959.

Theodore F. Childs is co-author with Milton Holtzman of "Postoperative Management and Rehabilitation of the Hemipelvectomized Patient," published in the *Archives of Physical Medicine and Rehabilitation*, June, 1959. Mr. Childs is Chief, Physical Therapy Section, Brooklyn Veterans Administration Hospital, Brooklyn, New York.

Education

The National Foundation's Health Scholarship Program

Of vital interest to every member of our Association is the Health Scholarship program of The National Foundation (formerly The National Foundation for Infantile Paralysis.) Through this bold and imaginative program, The National Foundation is offering 515 Health Scholarships of $500 each, renewable yearly for a total of four years to high school seniors to help them prepare for careers in medical social work, medicine, nursing, occupational therapy, and physical therapy. This year, the total allotment is $257,500. By 1962, The National Foundation will be awarding $1,030,000 of March of Dimes funds per year to young people seeking to enter the five professions benefiting from the program.

This year 4,600 applications were received for the 515 available scholarships. Of these, more than 500 came from persons waiting to enter schools of physical therapy. Each profession has a total of 103 scholarships per year allotted to it. Applications for the other fields were as follows: medical social work, 200; medicine, 1,100; nursing, 2,500; occupational therapy, 300. No applications for physical therapy were received from the states of Arkansas, Arizona, or the District of Columbia.

What is happening to the 400 young people who applied for, and did not receive, a Health Scholarship in physical therapy? Are they people who had already decided upon this profession, and applied because the scholarship was available? Will all or most of them enter schools of physical therapy this fall even though they did not receive the scholarship? Or are they people who cannot attend college without financial assistance? Or perhaps they fall in both categories. In which case, what proportion will enroll in physical therapy courses? What proportion of the applicants received the initial stimulation to choose physical therapy as a profession from the publicity attendant upon The National Foundation's program? Students entering physical therapy schools this fall may be able to supply some of the answers to these questions.

Roughly eight times as many young people applied for the scholarships in the health professions as could receive them. This indicates the

existence of a pool of potential physical therapy students which we are not at present tapping. It seems reasonable to suppose that young people who are deeply interested in medical or nursing careers might find the satisfactions they are seeking in the profession of physical therapy. How can we reach them, to tell them so?

OVR Rehabilitation Grant Received

The American Physical Therapy Association has been the fortunate recipient of a rehabilitation grant from the Office of Vocational Rehabilitation enabling the Association to conduct a five day institute for physical therapy teaching personnel in the spring of 1960.

The APTA Board of Directors will appoint a committee of three physical therapists to assist in planning and conducting the institute, including: 1) stating eligibility requirements to aid in screening applications, 2) developng the program, 3) selecting faculty. The general topic of the program, suggested and voted upon by faculty members of the physical therapy schools last year, is "Therapeutic Exercise—Comparisons and Contrasts."

The University of North Carolina Division of Health Affairs. Shown here are the Schools of Dentistry, Medicine, Nursing, Public Health, and North Carolina Memorial Hospital. A new School of Pharmacy building is under construction in the same area.

University of North Carolina

This past June, Shirley Cloninger of Dallas, North Carolina, was awarded the degree of bachelor of science in physical therapy by the University of North Carolina. This was a history making event.

It was the first time in the history of the state that such a degree had ever been awarded. It was fitting and proper that physical therapy history be made at the University of North Carolina, as the University is a history making school. It is the nation's first state university, having opened its doors to its first students in 1795. The University which is located in Chapel Hill, population 18,000, is renowned as a center of liberal thought and learning.

The University of North Carolina School of Medicine, which is located on the University campus, was first established in 1879 and operated under various plans until 1911. From 1911 to 1952 it was a two year school. It expanded into a full four year program in the fall of 1952.

The Section of Physical Therapy, activated in 1957, is a division of the UNC School of Medicine. Earlier a department of physical therapy came into being with the opening, in 1952, of the North Carolina Memorial Hospital, the teaching hospital of the School of Medicine.

The degree program in physical therapy at the University of North Carolina is the only such program for undergraduates in the Southwest with the exception of the one at the Medical College of Virginia. The School of Medicine of the University of North Carolina grants the degree of bachelor of science in physical therapy upon satisfactory completion of the four year program of study. The aim of the program is to develop

SHIRLEY CLONINGER

competent physical therapists with a well rounded liberal education, whose educational background prepares them for professional study and participation in the total health program which centers about the welfare and care and treatment of the patient. Strengthening health services to local communities in the state through physical therapy is a primary aim.

The program is designed to be completed in four calendar years. During the first two years the student completes a prescribed curriculum at the University or at another accredited institution. Students wishing to transfer to the Chapel Hill campus should maintain close liaison with the staff of the Section of Physical Therapy to assure proper planning of courses. Women are eligible to enter this four year program as freshmen on the Chapel Hill campus.

The third and fourth years, consisting of courses in the Section of Physical Therapy of the School of Medicine, must be completed at the University in Chapel Hill. It is required that all applicants have a personal interview. Enrollment in the first two years does *not* automatically assure the student of a place in the Junior class. Enrollment in the last two years is limited and students will be accepted on a competitive basis.

A unique feature about the UNC Section of Physical Therapy is that it is a part of the UNC Division of Health Affairs. The Division is composed of the UNC Schools of Dentistry, Medicine, Nursing, Pharmacy, Public Health, and the North Carolina Memorial Hospital.

This division was established 10 years ago for the purpose of integrating and correlating the work of all the related professional schools and the hospital in their teaching and research developments within the University and the state. There is, perhaps, no other organization in the world with five schools in the field of health science and a teaching hospital all within one administrative unit. It gives the physical therapy student a wide range of course offerings in the Division as well as from the main campus. Graduate study for physical therapy is also planned to take advantage of these varied offerings.

An editorial in the *New York Times* said of the Division of Health Affairs, "What has been created at Chapel Hill is a model for medical care and medical education whose influence is sure to extend throughout the Southern region, and the regional influence will be felt throughout the nation."

A Mouse Called "Funnyfoot"

A sick little mouse and an observant young girl have leading roles in a scientific drama which may one day reach its climax in the conquest of one of the most tragic diseases known to mankind, muscular dystrophy.

It was the girl, Ann Michelson, who gave the limping rodent the name by which he is popularly known—*Funnyfoot*; his official laboratory designation is the *dy* mouse. Ann, a pretty 20-year-old Smith College undergraduate, first met *Funnyfoot* in the summer of 1953 when she was a student apprentice at the Roscoe B. Jackson Memorial Laboratory in Bar Harbor, Maine. This institution is the world's largest source of supply for the standard inbred strains of mice which are of such vital importance in many areas of medical research.

In the numerous rodent colonies at Bar Har-

Descendants of Funnyfoot

bor, there were some 190,000 mice—a disturbing set of companions for most girls, but not for Ann who was already contemplating a medical career.

Her assignment at Bar Harbor was to test mice for diseases of the nervous system. One day, she was given a specimen from the strain labeled 129, cultivated by one of the laboratory's senior staff scientists, Dr. Elizabeth S. Russell. The mouse was a sick, stunted little creature with rough fur and, as Ann put it, "a funny way of using his back feet." Hence his name.

Though the nature of *Funnyfoot's* ailment was unknown, it had already been established that he was not a mere freak, but what geneticists call a *mutant*. The condition from which he suffered had appeared spontaneously in the 129 strain some two years before and kept occurring, according to a consistent hereditary pattern, among members of that particular inbred colony.

Under the direction of Dr. Russell, Ann began to investigate the nervous system of the crippled little mouse. Repeated testing, however, disclosed no neurological lesions. Absorbed by the problem, she took some normal specimens of the 129 strain back to college, continuing her detailed and exacting, but fruitless, studies throughout the course of her senior year.

The next summer, she returned to Bar Harbor. And now her thoughts began to move in a radically new direction. In fact, she had a brainstorm. If, as her experiments seemed to prove, *Funnyfoot's* nervous system was intact, was it possible that the muscle tissue alone was involved?

Primary muscle disease is rare in animals. It had never been known to occur in any animal of known genetic background. Nevertheless, Ann persisted with this new line of investigation, and the long chance paid off. Photomicrographs of muscle sections from the diseased mouse showed marked aberrations from the normal, a great excess of fat cells and connective tissue.

Ann was puzzled. She had never encountered anything quite like this before. She did not know how to interpret the abnormalities her greatly enlarged photos revealed. So she decided that the time had come to consult her senior colleagues at the laboratory—tell them about the new direction of her work, show them the perplexing pictures.

Here, again, chance took a hand in the story. In 1955, when Ann made her discovery, few scientists were qualified to assess its significance. The only concentrated research program in the field of muscular dystrophy was that sponsored by a health agency which was itself only five years old, Muscular Dystrophy Associations of America. Founded by a handful of people in New York, most of them parents of dystrophic children, MDAA had rapidly grown into a nationwide organization. By means of grants-in-aid, it was supporting investigators interested in the still relatively unexplored area of muscle diseases.

As it happened, one of these investigators, Dr. Pinckney J. Harman, was a member of the Bar Harbor staff. He stared at Ann's pictures with amazement. To his trained eye, the blowups of *Funnyfoot's* muscle tissue showed the characteristic deterioration, the unmistakable signs of muscular dystrophy.

Dr. Harman lost no time in seeking confirmation of his extraordinary finding. At his request, Dr. Ade T. Milhorat, chairman of MDAA's Medical Advisory Board, and Dr. Karl E. Mason, another member of the board, came posthaste to Bar Harbor. They agreed that—to the extent that nonvirus, nonbacteriological disease in man and animal can be compared—*Funnyfoot* did indeed suffer from muscular dystrophy.

The importance of this accidental discovery cannot be overestimated. Among the factors impeding full scale research into muscular dystrophy was the lack of a standard laboratory animal. If *Funnyfoot* could be produced in sufficient quantities, an ideal tool would be available to scientists investigating the mysteries of this crippling progressive disease. What makes the mouse such a boon to researchers is that, while it resembles human beings in its biological characteristics, its brief life cycle telescopes the time needed to complete experiments.

It became a prime objective of MDAA to accelerate production of the *dy* mouse. A grant, in excess of $50,000, enabled the Bar Harbor institution to expand the hitherto marginal facilities it had devoted to this objective. For a time, there were difficulties; the natural incidence of the disease in members of the 129 strain was only one in four and the sick little creatures rarely reached maturity. But a transplant method devised by Dr. William S. Murray, associate director of Jackson Memorial Laboratory, and later refined by one of his colleagues, has so increased *Funnyfoot's* numbers that specimens are now available to all researchers who can make use of him. Continuing MDAA grants to Bar Harbor assure the maintenance of the strain and also support the institution's own studies of the mutant.

This year, MDAA's Institute for Muscle Disease—a $5,000,000 research facility dedicated to the study of muscular dystrophy and related neuromuscular disorders—begins operations in

(continued on page 705)

SHORT TERM COURSES FOR GRADUATE PHYSICAL THERAPISTS

Title of Course	*Sponsor of Course*	*For Details Contact*	*Dates of Course*
Cerebral Palsy	The North Carolina Cerebral Palsy Hospital Durham, North Carolina	Dr. Lenox D. Baker Medical Director No. Carolina C. P. Hosp. Durham, North Carolina	Courses arranged according to individual need—duration 3 months
Physical Therapy in the Care of Neuromuscular Disease	Georgia Warm Springs Foundation Warm Springs, Georgia	Robert L. Bennett, M.D. Medical Director Ga. Warm Springs Found. Warm Springs, Georgia	January April October
Technics of Neuromuscular Reeducation	California Rehabilitation Center Vallejo, California	Margaret Knott, Chief P. T. Calif. Rehab. Center Vallejo, Calif.	January 1 April 1 July 1 October 1
Functional Bracing of the Upper Extremities	U. of California and U. S. Office of Vocational Rehabilitation	Prosthetics Education Program Rm. B4-229, Medical Center University of California at Los Angeles 24, California	June 13—17, 1960
Upper Extremities Prosthetics	Postgraduate Medical School & College of Engineering New York University	Prosthetics Ed. Program New York University Postgrad. Medical School 550 First Avenue New York 16, N. Y.	Oct. 26—Nov. 6, 1959 May 31—June 10, 1960
	U. of California and U. S. Office of Vocational Rehabilitation	Prosthetics Education Program Rm. B4-229, Medical Center University of California at Los Angeles 24, California	May 9—13, 1960
Lower Extremity Prosthetics	Postgraduate Medical School & College of Engineering New York University	Prosthetics Ed. Program New York University Postgrad. Medical School 550 First Avenue New York 16, N. Y.	Feb. 15—26, 1960 Apr. 18—29, 1960
Above-Knee Prosthetics	U. of California and U. S. Office of Vocational Rehabilitation	Prosthetics Education Program Rm. B4-229, Medical Center University of California at Los Angeles 24, California	Nov. 16—20, 1959
	Northwestern U. and U. S. Office of Vocational Rehabilitation	Director of Prosthetic Education Northwestern U. Med School 401 E. Ohio St. Chicago 11, Illinois	Dec. 14—18, 1959 June 20—24, 1960
Below-Knee Prosthetics	U. of California and U. S. Office of Vocational Rehabilitation	Prosthetics Education Program Rm. B4-229, Medical Center University of California at Los Angeles 24, California	Dec. 14—18, 1959 Jan. 18—22, 1960 Feb. 29—Mar. 4, 1960 April 4—8, 1960
	Postgraduate Medical School & College of Engineering New York University	Prosthetics Ed. Program New York University Postgrad. Medical School 550 First Avenue New York 16, N. Y.	Dec. 17—18, 1959 Jan. 14—15, 1960 Mar. 17—18, 1960 Apr. 7—8, 1960
	Northwestern U. and U. S. Office of Vocational Rehabilitation	Director of Prosthetic Education Northwestern U. Med School 401 E. Ohio St. Chicago 11, Illinois	Feb. 8—19, 1960 March 7—18, 1960 May 9—20, 1960

Schools Offering Courses in Physical Therapy

APPROVED BY THE COUNCIL ON MEDICAL EDUCATION AND HOSPITALS OF THE AMERICAN MEDICAL ASSOCIATION

Schools offering the four year program leading to a baccalaureate degree accept high school graduates and transfer students. Schools offering the 12 to 16 months' program leading to a certificate accept students who have completed all or most of their undergraduate work providing they meet certain course requirements. Recipients of a degree and/or certificate have equal professional status. For specific information regarding each school's entrance requirements, curriculum, tuition and other fees, write to the physical therapy director indicated below. All students should investigate course requirements *early*.

	Degree	*Certificate*
CALIFORNIA		
Mary J. Dodge School of Physical Therapy Childrens Hospital Society 4614 Sunset Boulevard Los Angeles 27	‡	†
Ronald A. Hershey School of Physical Therapy College of Medical Evangelists Loma Linda	†	†
Lucille Daniels Division of Physical Therapy School of Medicine Stanford University Stanford (Palo Alto)	†	†
Margery L. Wagner Curriculum in Physical Therapy University of California The Medical Center San Francisco 22	†	†
Charlotte W. Anderson Department of Physical Therapy University of Southern California Los Angeles 7	†	†
COLORADO		
Dorothy Hoag Curriculum in Physical Therapy University of Colorado Medical School Denver 20	†	†
CONNECTICUT		
James M. Bauer Acting Director School of Physical Therapy U 101 University of Connecticut Storrs	†	
ILLINOIS		
Elizabeth C. Wood Course in Physical Therapy Northwestern University Medical School 303 East Chicago Avenue Chicago 11	†	†
IOWA		
Olive C. Farr Physical Therapy State University of Iowa Hospitals Iowa City		†
KANSAS		
Ruth G. Monteith Section of Physical Therapy Education University of Kansas Medical Center Kansas City 12	†	†
LOUISIANA		
(Not accepting students during 1958-1959) Director School of Physical Therapy Charity Hospital of Louisiana New Orleans 12		†
MARYLAND		
Gladys E. Wadsworth, Ph.D. Department of Physical Therapy School of Medicine University of Maryland Baltimore 1	†	
MASSACHUSETTS		
Adelaide L. McGarrett Physical Therapy Department Boston University Sargent College University Road Boston 15	†	†
Constance K. Greene Department of Physical Therapy *Bouvé-Boston School, Tufts University Medford 55	†	
Shirley M. Cogland *Program in Physical Therapy Simmons College The Fenway Boston 15	†	†
MICHIGAN		
Virginia Wilson Curriculum in Physical Therapy The University of Michigan University Hospital Ann Arbor	†	†
MINNESOTA		
Dale V. Shaffer School of Physical Therapy Mayo Clinic Rochester		†
Wilbur L. Moen Course in Physical Therapy University of Minnesota 860 Mayo Memorial Building Minneapolis 14	†	

* Accepts women students only.

‡ Baccalaureate degree available from an affiliating college or university.

	Degree	Certificate
MISSOURI		
Sr. M. Imelda, S.S.M. Department of Physical Therapy St. Louis University 1325 South Grand Boulevard St. Louis 4	†	
Beatrice F. Schulz Department of Physical Therapy Washington University School of Medicine 660 So. Kingshighway St. Louis 10	†	
NEW YORK		
Dorothy L. McLaughlin Albany Medical College Division of Physical Therapy Albany 8	‡	†
Mary E. Callahan Courses for Physical Therapists Columbia University College of Physicians & Surgeons 630 West 168th Street New York 32	†	†
Elizabeth C. Addoms Physical Therapy Curriculum School of Education, New York University Washington Square East New York 3	†	†
Mildred F. Heap Program in Physical Therapy University of Buffalo 3435 Main Street Buffalo 14	†	†
NORTH CAROLINA		
Helen Kaiser Division of Physical Therapy Box 3403, Duke University Medical Center Durham		†
Margaret L. Moore Section of Physical Therapy School of Medicine University of North Carolina Chapel Hill	†	
OHIO		
Robert D. Kruse, D.P.E. Course in Physical Therapy Frank E. Bunts Educational Institute 2020 East 93rd Street Cleveland 6	‡	†
Gladys G. Woods Curriculum of Physical Therapy Ohio State University University Hospital Columbus	†	†

* Accepts women students only.

‡ Baccalaureate degree available from an affiliating college or university.

	Degree	Certificate
OKLAHOMA		
Thelma Pedersen School of Physical Therapy University of Oklahoma, Medical Center Oklahoma City 4	†	†
PENNSYLVANIA		
Dorothy E. Baethke Division of Physical Therapy University of Pennsylvania 3901 Pine Street Philadelphia 4	†	†
Kathryn Kelley Division of Physical Therapy D. T. Watson School of Physiatrics Leetsdale	‡	†
PUERTO RICO		
(All classes given in Spanish) Lutgarda V. Piñeiro School of Physical & Occupational Therapy Candelaria & Mandry Streets Stop 22, Santurce	†	†
TEXAS		
Doris E. Porter Grady Vaughn School of Physical Therapy Baylor University Medical Center Dallas 10	†	†
Cecelia J. Lee School of Physical Therapy Hermann Hospital Houston 25	‡	†
Ruby Decker School of Physical Therapy The University of Texas Medical Branch Galveston	†	†
VIRGINIA		
Susanne Hirt School of Physical Therapy Medical College of Virginia Richmond 19	†	
WISCONSIN		
Beth J. Phillips Curriculum in Physical Therapy Marquette University School of Medicine 561 North 15th Street Milwaukee 3	†	
Margaret Kohli Course in Physical Therapy University of Wisconsin Madison 6	†	
U. S. ARMY MEDICAL SERVICE		
*Physical Therapy Course Army Medical Service School Brooke Army Medical Center Fort Sam Houston, Texas Write to: The Surgeon General Department of the Army Washington 25, D. C. Att.: Personnel Division		†

Please direct all inquiries regarding tuition, entrance requirements and other specific information to the school and *not* to the American Physical Therapy Association.

Abstracts

Pain and the Frozen Shoulder

H. P. Kopell and W. A. L. Thompson (Neuromuscular Study Group, New York University-Bellevue Medical Center, New York), SURG. GYN. OBST., 109:92-96 July 1959

Chronic shoulder disability is usually associated with pain and restriction of motion. These are the major constituents of the syndrome known as the frozen shoulder. The etiology and the location of the condition have not as yet been definitely established. Treatments for the frozen shoulder are many and varied. These treatment forms have had sporadic results, and in some cases little influence on the course of the affliction. Dissatisfaction with the results of treatment to date led the authors to re-explore the condition.

The possibility of a compressive neuropathy of a nerve about the shoulder was considered. The pain area led to the motor supply of the posterior aspect of the shoulder. Here two nerves would seem vulnerable to trauma from surrounding structures. These are the axillary and the suprascapular nerves. The axillary nerve can be eliminated because it is a mixed nerve with a direct skin representation. There have been no sensory findings on examination to implicate this nerve. The suprascapular nerve meets the requirements. It is a motor nerve with sensory fibers for muscles and joints. The nerve is vulnerable to trauma as it passes through the foramen formed by the superior transverse ligament closing the suprascapular notch. The nerve has a relatively fixed origin from the upper trunk. It is also fixed by its muscular and joint ramifications; therefore, at extremes of motion when the nerve is taut the foramen edges can exert pressure. It was demonstrated by dissection that the nerve would be rendered taut by forward motion of the shoulder girdle, especially when the arm was brought into forced cross body adduction. It is believed that the tightened suprascapular nerve can exert traction force on the upper trunk of the brachial plexus. This can be responsible for the complaint of the diffuse, deep pain in the arm and forearm often noted in cases of frozen shoulder.

To test the hypothesis that the suprascapular nerve was the source of pain, suprascapular blocks were used in more than 20 cases. In all instances there was substantial pain relief within 24 hours. This relief lasted from 3 to 7 days. Repeated suprascapular injections of hydrocortisone in many cases eliminated pain.

Additional proof was found in three cases which warranted surgical intervention. The suprascapular nerve was found to be swollen and presented a tight fit within the suprascapular foramen. Section of the suprascapular ligament revealed a transverse indentation of the nerve at the site of former ligament pressure. The operation provided relief of pain and gradual increase in the range of pain free motion.

It is the authors' belief that a compressive neuropathy of the suprascapular nerve can exist as a "pure" entity or in association with restriction of scapulohumeral motion. Although this neuropathy may occur without pertinent history, there is one force direction which has been observed to cause the nerve trauma. The force is one that causes the scapula to wing laterally and forward as when the arm is brought forward across the body.

"Psychogenic" Pain and the Pain Prone Patient

George L. Engel (Department of Psychiatry and Medicine, University of Rochester School of Medicine and Dentistry, Rochester, New York), AM. J. MED. 26:899-916, June 1959

Pain is a cardinal manifestation of illness, and the relief of pain is probably the most common demand made by the patient upon the physician. In spite of its importance, it is astonishing how little we understand pain.

It is generally believed that pain has two components: the sensation which arises when pain receptors are stimulated and the reaction to this sensation. When a patient complains of pain, it is taken for granted that pain end organs are being stimulated. However, if no pathological process can be located, the patient's pain is thought to be "imaginary," even though he is still suffering. In recent years, the term "psychogenic" pain has been applied to those conditions in which no other cause of pain can be determined. In order to understand "psychogenic" pain, one must relinquish the notion that pain *must* originate in peripheral receptors and nowhere else.

What is experienced and reported as pain is a psychological phenomenon. Developmentally, pain evolves from patterns of impulses arising from peripheral receptors. The psychic experience, pain, develops from what was originally only a reflex organization. Once the psychic organization necessary for pain has evolved, the experience, pain, no longer requires peripheral stimulation to be provoked. Since the experience, pain, and the sensory experiences from which it evolves are part of the biological equipment whereby the person learns about the environment and his body and since this has a special function as a warning or indicator of damage to body parts, pain plays an important role in the total psychological development of the person.

Clinically, patterns originating in the periphery confer certain qualities on the pain experience that permit the physician to make a presumptive diagnosis of an organic lesion. Clinical psychological studies of all varieties of patients with pain reveal that some persons are more prone than others to use pain as a psychic regulator, whether the pain includes a peripheral source of stimulation or not. These patients are referred to as "pain-prone" patients.

Pain-prone persons usually show some or all of the following features: (1) a prominence of conscious or unconscious guilt, with pain serving as a means of atonement; (2) a background that tends to predispose using pain for such purposes; (3) a history of suffering, defeat, and intolerance of success; (4) a strong aggressive drive which is not fulfilled; (5) develoment of pain as a replacement for a loss; (6) a tendency toward sadomasochistic type of sexual development; (7) location of pain determined by unconscious identification with a love object; (8) psychiatric diagnoses of conversion hysteria, depression, hypochondriasis, and paranoid schizophrenia.

Since pain is an experience, the physician is dependent upon the report of the person experiencing it for any information about this pain. Even though "psychogenic" pain is only and always a psychic phenomenon, it is important to know whether or not what is being experienced as pain includes disordered patterns originating in nerve endings. The interview technic which permits the patient to speak of himself, his family, and his relationships as well as of his symptoms, and which does not force a separation between what is regarded as organic and what is regarded as psychological or social will be tremendously productive in clarifying a patient's illness.

A Study of the Degenerated Disc

Thomas E. Cook (Lisbon Veterans Administration Hospital, Dallas, Texas), G.P., 19:85-88, June 1959

Degeneration of the disk is the primary cause of back disability. The sequelae produced from disk degeneration are: settling of vertebrae, undue pressure on posterior structures sprain of apophysial joints and development of osteoarthritis. Discography, a procedure consisting of injecting opaque media into the degenerated disk and X-raying it, demonstrates more clearly the pathological process than do previous methods. Discograms prove of great value in the assessment of secondary effects that have taken place.

Clinical observation of patients reveals the common complaints to be dull aching after unusual exertion, and stiffness after rest, disappearing when motion is resumed. Fatigue causes slumping and backache. Major lower back disability is by crises ("spells") which occur two or three times a year.

The history of degeneration of most disks extends over many years. The author concluded from a study of 200 patients that there are four stages apparent: the first, narrowing of the space before evident by routine X ray; second, slight and moderate narrowing; third, marked narrowing; and lastly, when the space is obliterated as a result of vertebral fusion.

The first stage is characterized by undue mobility of the intervertebral segment. Symptoms are subjective. In the second stage is found the bulk of the most painful backs. The diagnosis is rupture of the disk with the superimposed vertebrae in the process of settling, and osteoarthritis. In the third stage, complete settling of the disk occurs and is commonly accompanied by spondylolisthesis. The fourth stage is rarely seen and offers marked contrast to the earlier stages. There is no obliteration of the intervertebral space with fusion of the vertebra. No symptoms are present.

Crises may be prevented by not overloading and subluxing the unstable joint, by proper seating for long trips, by resting burdens on hips while carrying them and by abstaining from a show of strength. Physical labor should be done in the erect posture and without twisting the torso.

At the present time an operation has been developed which will restore to normal width a narrowed intervertebral space. Relief of pain occurs and the patient is back to work in some three weeks. Disks are many, however, and ability to perform such operations is rare; thus, for the present, the bulk of the aching backs must be treated conservatively. Salicylates, bed rest on a firm mattress, and a brace are helpful. Flexion exercises may be tried.

Neurosurgical Relief of Intention (Cerebellar) Tremor. A Preliminary Report

Irving S. Cooper and Nicholas Poloukhine (Department of Neurosurgery, St. Barnabas Hospital, New York), J. Am. Geriat. Soc., 7:443-445, May 1959

It is generally agreed that the tremor seen in cerebellar degenerative diseases, in some cases of cerebellar tumor, and in multiple sclerosis is different from the tremor in parkinsonism. Cerebellar tremor is usually not present when the involved extremity is at rest but appears only when the extremity is used for a voluntary motor act. This tremor is not relieved by medications and has usually been refractory to any forms of therapy.

The authors' experiences in over 1000 basal ganglia operations for parkinsonism involved observations of both intention tremor and resting tremor in some of the more severe cases. Both types of tremor were relieved by chemothalamectomy which is now considered the procedure of choice for the treatment of parkinsonism.

The purpose of this paper is to point out the beneficial results of chemothalamectomy in the treatment of pure intention tremor. In their parkinsonian tremor series, the authors have 6 year follow-up studies of cases in which there has been no recurrence of the tremors. However, the experience in the intention (cerebellar) tremor series is limited to a 6 month follow-up. The surgical lesion placed in the thalamus interrupts nerve fibers entering the thalamus from the globus pallidus, red nucleus and cerebellum, and probably also the vestibular nucleus.

Considerable evidence accumulated in the course of physiologic operations upon the central nervous system indicates that a partially damaged system may produce more abnormal symptoms than a totally damaged system particularly if compensating mechanisms exist in one or both cerebral hemispheres.

High-Level Wellness for Man and Society

Halbert L. Dunn (Chief, National Office of Vital Statistics Public Health Service, U.S. Department of Health, Education and Welfare, Washington, D.C.), Am. J. Pub. Health, 49:786-792, June 1959

To most of us health means the absence of disease and infirmity. If, instead of concentrating fixedly on disease and death we would focus our gaze on the condition termed good health we would be accepting the concept of positive health. We would see that good health or wellness is not a single amorphous condition but rather that it is a complex state made up of overlapping levels of wellness. As we come to recognize these levels objectively, more or less as we now diagnose one disease from another, we will realize that the state of being well is not a relatively flat uninteresting area of "unsickness" but is rather a fascinating and ever changing panorama of life itself.

The author lists 4 factors as reason for need of the concept of positive health: 1) a shrinking world, 2) a crowded world, 3) an older world, 4) a world of mounting tensions. These factors have changed the problems which face medical and public health professions. A great range of neurotic and functional illnesses which seldom destroy life but which interfere with living a productive and full life are on the increase.

The author suggests that we must shift from considering sickness and wellness as a dichotomy, towards thinking of disease and health as a graduated scale. He presents a health grid representing such a graduated scale of health. On this grid are two axes, one is called the *health axis* which ranges from death to peak wellness. The other axis is called an *environmental axis* which includes physical and biological factors and socioeconomical components which affect the health of the individual. A point on either of these axes represents a degree of wellness, peak wellness in a favorable environment being the ultimate goal.

It is pointed out that in order to progress toward peak wellness medicine must realize that the spirit of man as well as physical man is within its realm; that people must be taught to know themselves in order to meet their daily problems; that retired people are a rich source of wisdom and maturity and this source must be tapped; that crea-

tive expression must be recognized as an important element in the bridge between the biological nature of man and the spirit of man. Creative expression allows man to contribute of himself to the social group thus forming bonds with his fellow men of love, trust, and security.

When high-level wellness can be diagnosed through objective measures it will probably be found that a substantial amount of creative expression, altruism, and love in daily life is essential to a high state of well-being. Through the development and application of these values in daily life we will achieve self confidence and faith in ourselves. This in turn will bring growth of self, development toward fuller maturity, and a balanced wellness of body, mind, and spirit.

Peripheral Entrapment Neuropathies of the Upper Extremity

W. A. L. Thompson and H. P. Kopell (Neuromuscular Study Group, New York University-Belleveue Medical Center, New York), N. ENGLAND J. M., 260:1261-1265, June 18, 1959

The concern with the cervical herniated disk and the popular whiplash injury as a source of pain in the upper extremity may exclude consideration of a more distal origin of such pain. Neuropathies may arise from more distal areas called entrapment points where nerves are subject to trauma because of some anatomic configuration.

The nerves so affected are usually "mixed" nerves. In general, pain is an outstanding feature while weakness may be noted secondarily. Muscular atrophy can be noted clinically before subjective weakness is experienced.

The more obvious points of entrapment of the upper extremity are (1) the median nerve at the wrist, (2) the median nerve in the forearm (3) the ulnar nerve at the wrist, (4) the ulnar nerve at the elbow, (5) the radial nerve in the forearm, and (6) the suprascapular nerve at the shoulder. In each case a bony canal, inelastic ligament, exposed nerve over a bony prominence, hypertrophy of a muscle encroaching on a nerve in various movements or stretching the nerve over a sharp foramen may be the cause of compression of the nerve which causes the neuropathy.

The neuropathies so produced when involving motor nerves may cause poorly localized pain making diagnosis difficult. The entrapment syndromes should be considered before a neurologic dysfunction in the upper extremity is ascribed to a more central origin.

Scoliosis

W. F. Greenwald (Newington Hospital for Crippled Children, Newington Connecticut), AM. J. NURS., 59: 817-819, June 1959

Most braces for correction of scoliosis are cumbersome and unmanageable. The author presents the case for the use of the Risser localizer jacket as an assistive device in surgical correction of the dorsal curve in any type of scoliosis.

All appliances used to correct lateral curvature apply two forces to the spine, i.e., traction and bending of the curve itself. The Risser jacket applies both pelvic and head traction and bending of the curve by means of a jack which applies pressure to the convexity of the spinal curve. The jack is covered with a special localizer pad which becomes incorporated in the plaster.

The Risser localizer jacket is applied while the patient lies on the Risser localizer frame. This frame consists of a metal frame, a canvas sling, and adjustable jacks. The patient is encased in snug fitting stockinette and placed supine in the sling. Sheet wadding is applied and all bony prominences are lightly padded with felt. The pelvic and head portions of the cast are then applied. When these are sufficiently hard, traction is given at both pelvis and head. The localizer pad is then placed posterolateral to the prominence in the child's back by means of the jack. Now a body plaster is applied to join the pelvic and head portions. When this is sufficiently dry the traction and the localizer jack are removed. Three of these jackets are worn preoperatively for approximately 10 to 14 days each. The cast is removed one day before surgery. Spinal fusion is then performed. The postoperative cast is applied 7 to 10 days after surgery when the sutures have been removed. Because the localizer jacket is more effective than other plaster immobilization the patient is ambulatory usually in the seventh or eighth week postoperatively.

At the end of 6 months the cast is removed and X rays are taken. If the fusion is progressing satisfactorily a modified localizer cast (one without the head portion) is applied. The patient remains in the cast an additional six months. At this time the cast is removed permanently if the fusion is stable.

Because the Risser localizer cast does not bend the spine the patient remains in a balanced position throughout the treatment. It also is an easy cast to apply and remove, it allows the patient to walk in comparative comfort, and to return home 10 weeks postoperatively.

Inapparent Infection: Relation of Latent and Dormant Infections To Microbial Persistence

Walsh McDermott (Cornell University Medical College), PUB. HEALTH REP. 74:485-499, June 1959.

Many microbes which previously appeared harmlessly in man have become potential killers since the advent of the new antimicrobial or "wonder" drugs. The main drug under discussion by this author is cortisone which seems to produce either activity in previously latent microbes or a change in the tissue environment which lowers the host resistance to these microbes.

Other drugs seem to kill infection-causing organisms while in reality they merely give a temporary remission of the disease. This may be due to the microbes being reduced to a dormant state in which they can be identified but are not producing disease, or they may be reduced to a latent stage. This means that the microbes may still be present but cannot be detected by methods now available. Such can only be seen in retrospect usually as a relapse or flare-up of the disease. This latency may be explained as changes in the microbes themselves or in their ability to grow on our artificial culture medias.. The principle feature which seems to uphold the theory of major changes in microbe forms has to do with the time sequences involved in latent infections. For example tuberculosis (in experimental animals) treated by isoniazid-pyrazinamide therapy for 12 weeks seemed to disappear. Yet after a period of 90 days the bacilli were again seen indicating a latent period or form, which needed a significant modification before resurrection could occur.

Our main challenge today lies in the fact that man is beginning to succumb to his own microbes. This

is borne out by the increasing number of infectious diseases caused by microbes such as E. coli, A. aerogenes, streptococci, and staphylococci which commonly inhabit our bodies without producing disease.

Neurological and Radiological Manifestations Associated with Spondylosis of the Cervical and Lumbar Spine

Joseph A. Epstein and Bernard S. Epstein, (Department of Surgery, Long Island Jewish Hospital New Hyde Park, N. Y.), BULL. N. YORK ACAD. M., 35:370-386, June 1959

Spondylosis originates as a degenerative lesion of the intervertebral disk and involves the adjacent vertebral margins. Injury to the spinal cord and nerve roots may be caused by excessive narrowing of the vertebral canal and intervertebral foramina. The symptoms are progressive in nature and may be confused with degenerative disease of the spinal cord.

Awkwardness of gait, spasticity and ataxia in the lower limbs are early signs of involvement of the spinal cord in the cervical region. Numbness, atrophy, and loss of coordination in hand movements follow. Pain is not a conspicuous feature of cervical involvement.

In the lumbar spine, pain is an important sign. It involves the low back and may spread in a radicular pattern down one or both lower limbs. Mobility of the back is restricted weakness and atrophy of the lower limbs are found, and in advanced cases sphincter function can be lost.

If the disability persists after an adequate trial of conservative management, surgical decompression is indicated.

A New Exercise for Dysmenorrhea

Leib J. Golub (Jefferson Medical College, Philadelphia), AM. J. OBST., 78:152-155, July 1959

A set of exercises which requires a minimum of time, space, and supervision was given to 141 dysmenorrheic girls.

Exercise 1. In a standing position with arms raised sideward at shoulder height, the trunk is turned to the left. The knees are kept straight while the girl, twisting and bending the trunk, touches her left foot with her right hand.

Exercise 2. In standing position with arms at sides, feet parallel and a few inches apart, the girl swings her arms forward and upward simultaneously raising the left leg vigorously backward.

The exercises are repeated on the opposite side. The results obtained from these new exercises were compared with those obtained from the frequently advocated Billig or Mosher exercises. It was concluded that the new exercises were equally effective and because of their simplicity are more easily incorporated into a physical education program.

Clinical Trials in Infants of Orally Administered Attenuated Poliomyelitis Virus

Stanley Alan Plotkin, Hilary Koprowski and Joseph Stokes, (The Wistar Institute of Anatomy and Biology and the Children's Hospital of Philadelphia, PEDIATRICS, 23:1041-1062, June 1959

Forty-six infants, ranging from less than 1 day to 6 months of age, were given more than 100 feedings of living attenuated poliomyelitis viruses without the occurrence of major or minor illness. The strains used were CHAT (Type 1), Wistar (Type 1), Jackson (Type 2), P-712 (Type 2), and Fox (Type 3).

All strains except the Jackson strain were found to be antigenic on oral administration. Response to vaccination was demonstrated in these infants by the presence after vaccination of antibody levels significantly in excess of those attributable to transplacentally acquired antibodies, and by the detection of fecal excretion of poliomyelitis virus.

Infants less than 2 months old were more difficult to immunize than older infants. The evidence suggests that biologic immaturity rather than transplacental antibodies caused the difference.

When the three types of poliomyelitis virus were fed at 3 week intervals, responses occurred to all types, as interference between types was observed when they were fed in all possible sequences.

Three infants given a record feeding of homotypic, attenuated poliomyelitis virus 3 to 5 months after a successful vaccination showed resistance to intestinal reinfection.

It was concluded from these studies that vaccination against poliomyelitis with orally administered, living, attenuated viruses is entirely feasible in infants over 2 months of age, if 3 week intervals are allowed between feedings of the 3 types of virus. It is also possible to vaccinate successfully most infants under 2 months of age, even on the first day of life.

Landry-Guillain-Barré Syndrome

Robert E. Merrill and Dorothy Fredrickson (Departments of Pediatrics and Physical Therapy, Vanderbilt University Hospital, Nashville, Tennessee), J. PEDIAT. 54:816-822 June 1959

The differential diagonsis between the Landry-Guillain-Barré syndrome and poliomyelitis is frequently difficult. Many patients referred to the Vanderbilt Poliomyelitis Respiratory and Rehabilitation Center with a diagnosis of poliomyelitis were found to be examples of the former.

This study was undertaken to accurately assay the recovery rate of the paralysis associated with the syndrome and to determine whether the course of the paralysis is consistent enough to support the hypothesis that the Landry-Guillain-Barré syndrome does constitute a specific disease. The following criteria was established for this series to justify a diagnosis of Landry-Guillain-Barré syndrome: (1) paralysis, (2) absence of serological and cultural evidence of poliomyelitis, (3) absence of other specific disease, (4) increase in spinal fluid protein content at some time during the course of the disease, and (5) a normal number of white blood cells in the spinal fluid.

The records of all patients seen in the Vanderbilt Medical Center from 1952 through August 1958 and suspected of having Landry-Guillain-Barré syndrome were reviewed. Thirty-seven cases met the criteria outlined above. Paralysis was noted in all patients. Lower extremity involvement was present in 34 patients and 30 patients demonstrated paralysis in the upper extremities. Cranial nerves were affected in 20 patients, of whom 12 had facial nerve paralysis; 9 required respiratory aids. Only 16 patients of this group could be followed with serial muscle examinations. Recovery patterns are presented and a table illustrating the residual paralysis observed is included.

Most patients had 50 per cent of their final recovery by 6 months and that recovery was probably complete by 12 months. None of the patients had residual functional disability. The authors believe, it is significant that there was no apparent correlation between the initial and final degree of paralysis.

A Simple Method for Recording the Footprint

Elliot L. Coles and I. J. Larsen (Shriners Hospital, Honolulu, Hawaii), WESTERN J. SURG., 67:183-184, May-June 1959

It is pointed out that the footprint reflects the altered dynamics of the foot so nicely that it should be used more frequently as an auxiliary to diagnosis.

A simple method for recording the footprint is presented. A water soluble, block printing ink is spread on a square of linoleum. The patient stands on the prepared block and then sits down, holding feet in the air while the block is removed and a piece of stiff paper is substituted on which the patient then stands. After removal of the paper, the feet are placed in a basin of water and by the time the print is labeled the feet are clean.

Results of Surgical Treatment of Extraosseus Ossifications in Paraplegia

C. T. Armstrong-Ressy, A. A. Weiss, and A. Ebel (Bronx Veteran's Administration Hospital, Bronx, New York), N. YORK STATE J. M., 59: 2548-2553, July 1, 1959

Patients with traumatic paraplegia sometimes develop massive para-articular ossifications around the hip joints. Surgical procedures are sometimes performed on these patients to facilitate rehabilitation. Surgery is performed with these objectives: (1) to eliminate ankylosis and thus enable the patient to sit up in bed and transfer to a wheel chair (2) to permit the patient to use the commode instead of the bedpan, and (3) to permit the patient to be up and about and to drive a car instead of being confined to bed or to a litter.

In four cases of traumatic paraplegia in which surgery was performed, one patient was able to become ambulatory. In two cases the surgical procedure was a failure due to infection. One of these two procedures was clinically satisfactory, but new bone depositions continued to hamper the patient. This required the fabrication of a special leather prosthesis to enable him to sit without losing balance.

Theories as to the mechanism of normal bone deposition have been postulated. Although ossification of soft tissue has been theoretically explained, no universal acceptable theory for the etiology and localization of extraosseus ossifications has been developed.

Book Reviews . . . . .

Pediatric Neurology. *By Stanley S. Lamm, M.D., Clinical Professor of Pediatrics, State University of New York, College of Medicine, New York City; Neurological Consultant, Pediatric Department Kings County Hospital (State University Division), Brooklyn; Formerly Instructor in Neurology, Long Island College of Medicine, Brooklyn; Director, Cerebral Palsy Clinic, Long Island Hospital, Brooklyn. Cloth; price $12.90. Pp. 495; illus. Landsberger Medical Books, Inc. New York, 1959.*

This manual of various disorders of the nervous system has been prepared by a physician of broad clinical experience in this field. It represents an attempt to include all of the various neurological problems as well as diseases with secondary neurological manifestations, in a single small volume with a summary of the current status regarding the management of each.

Following an extremely brief review of some factors concerning mental growth and development, the remainder of the volume consists of 20 chapters covering various topics such as developmental defects, cerebral palsy, infections of the central nervous system, intracranial tumors, convulsive disorders, vitamin deficiencies, endocrine glands, etc. Although the type is clear and both the index and bibliography excellent, the illustrations are scanty and poorly reproduced.

The strength of this book appears to be at the same time its chief weakness. The attempt to cover all portions of this major area by a single author in one small handbook necessitates incomplete coverage of many important areas and a sacrifice of literary style. Cerebral palsy (28 pp.), poliomyelitis (7 pp.) and other enteroviruses (1 p.) give an indication of the brevity of this text. In spite of the lack of detail, incomplete coverage, and omission of controversial matters the material presented appears to be accurate except for a few minor points of little consequence.

It seems unlikely that this manual will replace the more complete standard textbooks in either pediatrics or neurology. Its chief merit is that of a ready source of brief summaries concerning various neurlogical problems, providing a carefully selected bibliography for each of these topics for further reading.

Radiographic Atlas of Skeletal Development of the Hand and Wrist. *By William Walter Greulich, Professor of Anatomy, Stanford University School of Medicine, and S. Idell Pyle, Research Associate in Departments of Anatomy Western Reserve University and Stanford University School of Medicine. Ed. 2. Cloth; price $15.00. Pp. 256; illus. Stanford University Press, 1959.*

The authors of this text are well qualified to produce this work. They endeavor to correlate the chronologic age versus the bone age, developing criterion of skeletal development for the average run of children. This book is an excellent reference and source of material for those people who are working with children in pediatrics and orthopedics, as well as for the research specialist.

The format is well developed; the illustrations are superb with no question as to the technic and the availability of detail of the skeletal hand. The style of writing is good and the statements and research are accurate.

There has been much discussion in the X-ray field relative to the value of the skeletal maturation scale versus other methods; however, from a general viewpoint most roentgenologists would use this reference text

Abstracters for October

For the carefully prepared abstracts in this issue, the Editorial Board is indebted to the following Association members:

Mary Helen Brown	Estill V. Latimer
Ethel Coeling	Florence Murley
Dorothy Kemske	Sue Ozburn
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Betty R. Landen	Ruth Reed (stu.)

For names of September's abstracters, see page 673.

in establishing a skeletal maturity rate. Orthopedic surgeons who do any amount of children's work would use this as a pure reference text for skeletal maturation.

Long-Term Illness: Management of the Chronically Ill Patient. *Edited by Michael G. Wohl, M.D., former Clinical Professor of Medicine (Endocrinology), Philadelphia General Hospital and Temple University School of Medicine; Chief of Nutrition Clinic, Philadelphia General Hospital; Consultant Physician in Medicine, Albert Einstein Medical Center; Attending Physician, Home for the Jewish Aged. There are 79 contributing authorities. Cloth; price $10.00. Pp. 748; illus. W. B. Saunders Co., Philadelphia, 1959.*

Seventy-nine authorities have contributed to a comprehensive survey of the management of patients with, what is now called, "prolonged illness." This is a semantic evolution from the term "chronic illness," then "long term illness" to this even more hopeful one.

The book is divided into two parts. Part I is concerned with *General Principles* and includes five chapters discussing general principles of care, rehabilitation, psychologic problems of the chronically ill, multiphasic screening and nursing procedures in chronic illness. The reading of this section in toto is to be recommended for physicians, nurses, nursing home operators, therapists and all other ancillary personnel who have any responsibility in the care of persons who have prolonged illness.

Each of the 19 chapters in Part II take up the therapy of a specific disease. The most pertinent facts relating to etiology, pathology, diagnosis complications and therapy, especially drug therapy, are discussed. In some instances physical medicine and rehabilitation procedures are gone into in detail; in others they are mentioned with more generalization. These chapters are a ready and concise reference source but can also be used as a textbook, particularly for the paramedical students, including nurses who will be working with long term illnesses. The philosophy and concept of the multiple problems of individual patients, technics of rehabilitation, and newer concept of care and diagnostic screening procedures provide invaluable material.

Myasthenia Gravis. *By Kermit E. Osserman, M.D., F.A.C.P., Physician-in-Charge Myasthenia Gravis Clinic, Mt. Sinai Hospital, New York; Attending Physician, Mt. Sinai Hospital, Cloth; price $10.00. Pp. 286; illus. Grune & Stratton, Inc., New York, 1958.*

This monograph is based on the management of more than 350 patients who were treated at the Myasthenia Gravis Clinic of the Mount Sinai Hospital of New York. Dr. Osserman was the originator and physician-in-charge of this clinic, and continues in that capacity. He is also currently President of the Myasthenia Gravis Foundation, Inc.

The monograph impresses one by its thoroughness and lucidity. The major subject divisions are: pathology, physiology clinical aspects, differential diagnosis, drug therapy, management, crisis, endocrinology, surgical treatment, radiotherapy, and psychotherapy. The literature cited is extensive. A good index enables one to locate without difficulty minute points, major areas, and cross references.

Authoritative symptomatic delineation of myasthenia gravis was first achieved by Erb, in 1879, and completed by Goldflam, in 1893. Not until 1934, when eserine was first used clinically, was there a clear-cut treatment program. This is a rare disease, the etiology of which is still obscure. The latest estimate of incidence, published in 1957, indicates that approximately 50 persons per million are affected. The only other monograph on the subject in recent years was that by Goni published in 1946. It was based on a study of 13 cases.

In the discussion of prognosis, Dr. Osserman regards myasthenia gravis as a more helpful diagnosis than those of multiple sclerosis, amyotrophic lateral sclerosis, or muscular dystrophy. This represents a major change in prognosis since the 1930's, chiefly because of the favorable effects of anticholinergic drugs.

Presumably this book is intended for the general practitioner. For the physician the monograph would be invaluable because of its constructive sections on differential diagnosis, management, and crisis. Because of its style the physical therapist will find the material readable and easily assimilated. The use of physical therapy is favorably but briefly mentioned in the section on management. For the physical therapist the value of this monograph lies in the help it gives him in understanding what makes this patient the way that he is.

How to Relax and Have Your Baby. *By Edmund Jacobson, M.D. Cloth; price $3.95. Pp. 197; photographs. McGraw-Hill Book Co., Inc., New York, 1959.*

The author of this book has studied relaxation technics for many years. Now he has applied his well substantiated theories to the field of obstetrics.

In this book, he records the case history of a young woman who desired to learn how to relax and have her baby. Several chapters are used to describe the patient and her husband, their reactions to the training in relaxation, the beginning and progress of her labor, and the delivery of a baby boy.

Except for the final chapter, the remainder of the book is devoted to a description of the author's technic in teaching relaxation. Each new lesson is treated, step by step, so the reader is able to follow the patient through the program of progressive relaxation.

As the author describes it, life is tension which must be relieved through relaxation if we are to live happy, harmonious, useful lives. How to achieve this state of relaxation is simply and clearly described in this book. Practice is essential and must be scheduled daily for one or two periods. The choice of the time to practice is important also, as it should accomplish the additional purpose of breaking up the day's activities. For this reason, the practice should not come immediately before retiring or shortly after arising.

Instructions for practice are given at the end of each chapter and are labeled as "Instructions for the Reader." The book is definitely written for the average person who has the desire to learn how to relax. The style is simple and clear.

The final chapter is actually a reprint of a professional paper published in the *American Journal of Obstetrics and Gynecology*, May 1952, and is included primarily for physicians. In it, he discusses the various relaxation methods currently being used in labor.

This is not a profound book, nor is it intended to be. The information which it contains could easily be used for any person desirous of relieving himself of tension.

The Book Reviewers for October will be found on page 673.

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Mouth-to-Mouth Breathing

(continued from page 681)

Rescuers who do not wish to come in contact with the victim may hold a cloth over the latter's mouth or nose, and breath through that. The cloth does not greatly affect the change of air.

The Red Cross still considers manual methods of artificial respiration acceptable for rescuers who cannot or will not use the mouth-to-mouth or mouth-to-nose technic, Mr. Cantwell said. The two methods it recommends are the Nielsen back pressure-arm lift method and the Silvester chest pressure-arm lift method.

Mouth-to-mouth resuscitation for infants and small children was adopted by the Red Cross two years ago. But the method is referred to in the Bible, to Elisha's exploit of reviving the Shunammite woman's child. It is in verses 34-35, Chapter IV of Second Kings:

"And he went up, and lay upon the child, and put his mouth upon his mouth, and his eyes upon his eyes, and his hands upon his hands: and he stretched himself upon the child; and the flesh of the child waxed warm.

"Then he returned, and walked in the house to and fro; and went up, and stretched himself upon him: and the child sneezed seven times, and the child opened his eyes."

The Red Cross began teaching artificial respiration in its first aid classes in 1910 and in water safety courses in 1914, Mr. Cantwell recalled. "In nearly a half-century uncounted hundreds of lives have been saved by the resuscitation technics accepted by the Red Cross. To estimate the number more closely would be impossible because many cases of lifesaving occur without being reported to us."

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Funnyfoot

(continued from page 692)

New York City. There is no doubt that, among the residents of its animal quarters, *Funnyfoot* and his kin will occupy the place of highest honor.

Important data has already been gathered from the study of this sick little mouse. Even more significant findings can be expected in the future. And, when this scientific drama reaches its triumphant conclusion, when the problem of muscular dystrophy is solved, a charming and persistent young woman, Ann Michelson, will be counted among its chief protagonists.

What's New . . . . . .

110. Plastic Bottle and Spout

A unit comprising a disposable 4½ oz. plastic bottle and spout can be filled at the hospital with any liquid. Intended as a disposable enema unit, it could serve as an alcohol or mineral oil container for use in the physical therapy department. Busse Plastics.

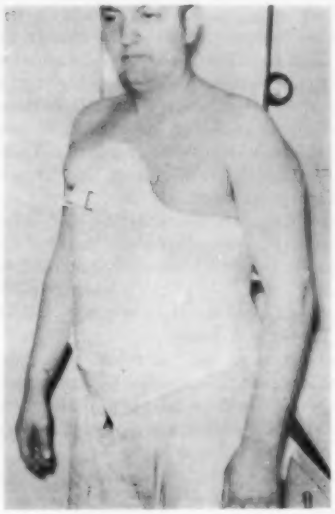
111. Skeleton Model

A human skeleton model of articulated, unbreakable, pliant plastic, is ⅙ actual life size (12" high). It is suspended on a sturdy hanger with an 8 oz. non-tip base and is easily removed from the display container for close inspection. Prominent bones are identified in the diagram on the reverse side. Orthopedic Equipment Co.

For more information on items write to The Physical Therapy Review, 1790 Broadway, New York 19, N. Y.

New items which may be of interest to physical therapists will be mentioned in these pages each month. The accompanying explanations are made by the manufacturers and have not been investigated by the *Physical Therapy Review*.

112. Dura-Foam for Splints



Dura-Foam is a new material for use in constructing splints for the prevention or correction of deformity, or for support of a part in cases of paralysis. When formed into the desired shape, only 15 minutes is required for "setting"; and if heated, the splint can be remodelled as desired. Washable, waterproof, and bouyant; splints made of Dura Foam are inexpensive, comfortable, and attractively colored. The material is non-toxic and is transparent to X rays. Dura-Design Plastics Limited.

Positions Available

STAFF physical therapist: Salary open, 40-hour week, two weeks' vacation with pay, holidays, sick leave, Blue Cross, social security, industrial insurance. Private Practice Board Physiatrist; fully equipped modern offices; regular salary increments at six months and one year and thereafter on merit. For further details write William J. LaJoie, M.D., 2021 North Central Avenue, Phoenix, Arizona.

A CHIEF R.P.T. AND A STAFF R.P.T. (both female) for full time work in offices of five orthopedic surgeons. Well established department, 40-hour week, good salaries, terms and working conditions. E. G. Derrick, Mgr., The Orthopedic Clinic, 2620 No. 3rd St., Phoenix, Arizona.

PHYSICAL THERAPIST: Female to take charge of well equipped dept. in geriatric center in excellent lake shore and college community. Current population of 185 to be gradually expanded to 400. Salary is open depending on exper. Housing and meals available. Good personnel policies. Apply to Personnel Director, Presbyterian Home-Hosp., 3200 Grant Street, Evanston, Illinois.

WANTED: Physical therapist for staff position in outpatient rehabilitation clinic. Liberal benefits, air conditioned clinic, modern equipment and under direction of a physiatrist. Recent graduate acceptable. Write to Ward A. Merrell, Administrator, Rehabilitation Services, Inc., 204 Court Street, Binghamton, New York.

PHYSICAL THERAPIST experienced to supervise expanding department in 300-bed general hospital; also staff physical therapist, experience unnecessary; excellent personnel policies. Apply Personnel Director, the Memorial Hospital, Worcester, Massachusetts.

WANTED: PHYSICAL THERAPIST—FEMALE: For 350-bed fully accredited community hospital. Both hospital and outpatient cases. Located on Long Island Sound, one hour from New York City. Liberal fringe benefits, including pension plan. Excellent meals at low cost. Salary from $3744 to $4680 per annum. Apply Personnel Director, the Norwalk Hospital, Norwalk, Connecticut.

Physical Therapist: For children's convalescent and rehabilitation hospital. Convenient living quarters available for a single female therapist. University city with many cultural opportunities; $4800 starting salary. Write Miss Martha B. Garrison, R.P.T., 2400 White Avenue, Nashville, Tenn.

QUALIFIED PHYSICAL THERAPIST for staff position in a 410-bed hospital. Completely remodeled and well equipped department, wide variety of cases divided equally between hospital and outpatient. Forty hour week, paid vacation, sick leave and holidays; salary open, depending upon qualifications and experience. Excellent opportunity in a growing community located in the Valley of the Sun, winter capitol of the Southwest. Apply Personnel Director, Good Samaritan Hospital, Phoenix, Arizona.

STAFF PHYSICAL THERAPIST: State Crippled Children's Program, P. T. Clinics held in various health departments. Merit System status, retirement benefits, liberal vacation and sick leave. Salary range $4512-5640. Travel expenses paid. Responsible, challenging and secure position. Write: Director of Personnel, State Health Department, Richmond, Virginia.

REGISTERED PHYSICAL THERAPISTS needed; 600-bed hospital serving as chief teaching facility for the Medical College of Alabama and the University of Alabama School of Dentistry. Excellent opportunities for advancement. Two weeks paid vacation, two weeks sick leave, five holidays per year. Write: Personnel Director, University Hospital and Hillman Clinic, The University of Alabama Medical Center, Birmingham 3, Alabama.

ORTHOPEDIC CLINIC with three surgeons needs a qualified physical therapist to work in two therapist department. Salary dependent upon experience. Please write Miss Patricia A. Brooks, Physical Therapist, Knight, Ware and Sutherland Clinic, 2618 Welborn Street, Dallas, Texas.

PHYSICAL THERAPIST I. Immediate opening in large general hospital; salary range $413-499 per month; good personnel policies; 11 holidays; vacation and sick leave. Must be registered or eligible. Apply personnel Director, 732 East Main St., Stockton 2, Calif.

(continued on next page)

Classified WANT-ADS

New Rates

$3.00 for the first line
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Typewrite your advertisement carefully and count 50 characters and spaces per line.

ALL WANT-ADS MUST BE PAID FOR IN ADVANCE. Make checks or money orders payable to the American Physical Therapy Association.

Closing date for copy and cancellation is two months preceding publication date.

Institutions or physical therapists who do not wish their identity known may arrange for Blind Ad Code No. All such want-ads must include the following which will be counted as 2 lines:

Address replies to ..... care of **The Physical Therapy Review, 1790 Broadway, New York 19, N. Y.**

IMPORTANT

It is understood and agreed that the publisher shall have the right to reject or change the wording of any advertisement which in the opinion of the Editorial Board shall not be in agreement with the ethical standing of this publication.

Positions Available

SUPERVISOR

Registered Physical Therapist with good educational & work background. Interesting position with large progressive metropolitan hospital. Excellent working conditions and benefits. Salary commensurate with ability. Good advancement. Write Mr. Joseph H. Kay, Personnel Director, Montefiore Hospital, Bronx 67, N. Y.

GRADUATES OF APPROVED SCHOOLS FOR PHYSICAL THERAPISTS, *new legislation provides that* under certain conditions, *you may now practice in California pending your registration in this State*. Positions open in State Hospitals, the Veterans Home and special schools for handicapped children. Starting salaries $436.00 and up; liberal employee benefits; promotional opportunities. Streamlined examinations twice a month in San Francisco and Los Angeles, and on request in other states near candidates residence. Write State Personnel Board, 801 Capitol Avenue, P. T. 71, Sacramento, California.

PHYSICAL THERAPIST: Experienced. Wanted for active, well equipped department in a 154-bed hospital with expansion program under way. Pleasant surroundings in north suburb of Chicago. Modern housing. Recreational facilities and cultural activities available. Good salary, 40-hour week, varied cases treated. Contact Personnel Director, Highland Park Hospital, Highland Park, Illinois.

PHYSICAL THERAPIST: Immediate placement in staff position. Large, university affiliated general hospital offering interesting variety of experience in treatment of inpatients and outpatients; 40 hour, 5-day week. Attractive beginning salary. Liberal personnel benefits. Apply to: Personnel Officer, Cincinnati General Hospital, 3231 Burnet Avenue, Cincinnati 29, Ohio.

IMMEDIATE OPENING: Qualified Staff Therapist for outpatient comprehensive rehabilitation unit in University setting. Multiple disabilities and all age groups accepted. Minimal salary $4800.00 depending upon experience. Female therapist preferred. Apply Executive-Director, Medical Center Rehabilitation Unit, Box 86 University Station, Grand Forks, North Dakota.

QUALIFIED PHYSICAL THERAPIST for immediate placement in well equipped outpatient cerebral palsy treatment center. Liberal personnel policy. Salary commensurate with experience. Contact United Cerebral Palsy of Polk County, 1243 Lakeland Hills Blvd., Lakeland, Florida.

PHYSICAL THERAPIST: New York Polyclinic Medical School and Hospital expanding physical medicine and rehabilitation dept. General rehab. problems. Good salary with increments, sick leave, paid vacations. Apply Personnel office, 345 W. 50 St., NY 19, NY. CO 5-8021.

WANTED: Qualified physical therapist for expanding outpatient Rehabilitation Center, treating both adults and children. Forty-hour, five-day week. Contact Clinton Owens, Rehabilitation Center, 316 Longwood Drive, S.W., Huntsville, Alabama.

STAFF PHYSICAL THERAPISTS: needed for Iowa Methodist Hospital's newly opened 120-bed Younker Memorial Rehabilitation Center. Excellent chance for advancement. Competent supervision, professional staff and assistants. Both in- and outpatient work. Salary range $365-$420; 40-hour week, vacations, sick leave, holidays, insurance, other benefits. Inquire Personnel Department, Iowa Methodist Hospital, Des Moines, Iowa.

PHYSICAL THERAPIST: In Hospital-School for rehabilitation of children with orthopedic handicaps. Complete interesting program. Good salary, merit increases. Annual paid vacation, sick leave, excellent retirement plan. Write to Director of Physical Therapy, Illinois Children's Hospital-School, 2551 N. Clark Street, Chicago 14, Illinois.

PHYSICAL THERAPIST for outpatient Rehabilitation Center directed by physiatrist. Wide variety of treatment program. Coordinated physical, occupational, speech-hearing, psychological, vocational and social services. Excellent personnel policies and working conditions. Contact R. A. Silvanik, Administrator, The Rehabilitation Center of Summit County, Inc., 326 Locust Street Akron 2, Ohio.

IMMEDIATE STAFF OPENING for PERSONABLE physical therapist: 129-bed general hospital, attractive salary, liberal personnel policies, 5-day week, housing. Winter sports, summer theater area. Apply Mrs. Katz, No. Adams Hospital, No. Adams, Mass.

STAFF PHYSICAL THERAPIST for Cerebral Palsy School-Clinic, of Atlanta, Inc. Day School program, clinic and outpatient services for 100 children ranging in age from 18 months to 18 years. Five-day work week, public school holidays, two weeks' summer vacation, sick leave, salary open. Send qualifications and work summary to: Mrs. Harold M. Seymour, Administrator, the Cerebral Palsy School-Clinic of Atlanta, 1815 Ponce de Leon Avenue, N.E., Atlanta 7, Georgia.

Physical Therapist for a VISITING NURSE ASSOCIATION carrying on comprehensive services to the sick in their homes on a visit basis. Stimulating community program expanding its services to the chronically ill. Retirement plan, Social Security, forty-hour week, one month's vacation. Beginning salary based on experience; annual salary increments. Apply Executive Director, Visiting Nurse Association of Allegheny County, 200 Ross Street, Pittsburgh 19, Pa.

IMMEDIATE OPENING for female staff physical therapist for children's hospital; 40-hour week, sick leave, 3 wks. vacation, salary commensurate with experience. Write Miss Nellie Koster, R.N., Director, Mary Free Bed Guild Children's Hospital and Orthopedic Center, 920 Cherry St., Grand Rapids 6, Michigan.

STAFF OPENING at Brevard Crippled Children's Clinic, Melbourne, Florida. This is a rapidly expanding area which presents many opportunities: wide variety of cases (both children and adults). Good starting salary and increments. Write John Cusson, P.O. Box 1314, Melbourne, Florida.

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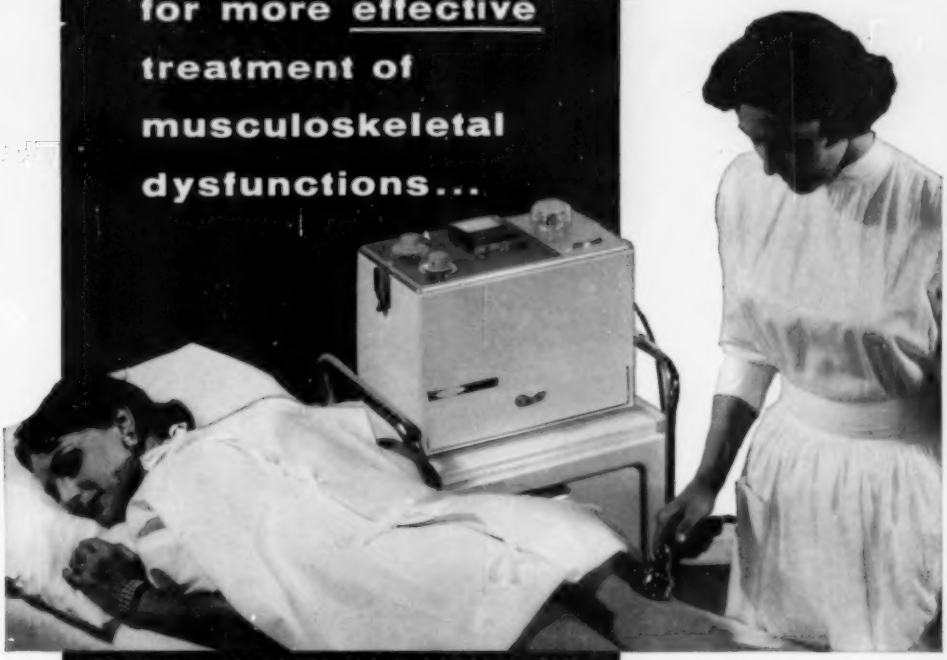

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To treat conditions where both heating and mechanical effects are desired, the Burdick UT-400 provides *continuous* ultrasonic energy. Where a greater proportion of mechanical effect to thermal is indicated, a flick of the switch supplies *pulsed* energy. This versatile unit is especially recommended for treating acute or chronic conditions of osteoarthritis, capsulitis, myositis, bursitis, fibrositis and periarthritis. An impressive number of case reports attest to the real value of this relatively new therapeutic agent. Ask for a demonstration of the Burdick UT-400 soon.

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STABILITY, POSITIVE SUPPORT, SAFETY & VERSATILITY are the main features of AMBUL-AID—features you've always wanted in a walker. It overcomes many of the limitations of other walking aids—and brings you a single, dependable all-purpose walker for the severely disabled which is equally useful for your less involved patients.

GREATER STABILITY

Ambul-Aid has a broader base than any other walker—wide enough so a wheelchair can go inside. Attractive and solid appearance builds patient confidence. Patients are not afraid to walk, even the first time.

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Unique Axillary Crutch Attachments—not found in any other walker—provide three exclusive advantages: (1) Finger-Tip-Control Lever locking device allows easy adjustment to *any* angle, *any* height in a matter of seconds. (2) The Crutch attachments are firmly locked in any desired position and give positive support. (3) Underarm supports are much larger than the "T" shaped pieces found in standard walkers; they are shaped to assist in correct body alignment and to prevent patient's falling forward. A hip strap placed in back of patient is designed to prevent falling backwards.

SAFETY

The four large ball-bearing casters have step-on brakes, which provide important advantages. By applying the brakes on two casters, the movement of the walker is slowed down. By applying all four brakes the walker can be positively locked in place—an important safety feature in many cases, such as if the therapist should have to leave a patient unattended.

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PARALLEL LOCKS for Casters, another unique feature, prevent lateral motion. On Ambul-Aid each swivel caster has a parallel lock, which can be set to prevent the caster swiveling. Locking either the two front or two rear wheels gives the patient better control of the direction of the walker.

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